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Characteristics of Negro and White High-School Students Prior to Desegregation: A Study of Negro Students' Freedom of Choice. Final Report.

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A series of instruments designed to elicit a number of cognitive and noncognitive constructs were administered to three groups of ninth-grade students--segregated Negroes, desegregated Negroes, and whites. The Negro students had chosen their school under a freedom-of-choice plan in Kent County, Delaware; i.e., some were going to the local high school but most attended a segregated school. Data were collected primarily to compare differences among the three groups. The tests included measures of ideational fluency, word fluency, problem recognition, judgment, self-other relationships, text anxiety, study habits and attitudes, self-concept of academic ability and socioeconomic status, and other variables. The segregated Negro students showed the lowest performance on the cognitive tests and the least positive personality characteristics; the scores of the desegregated Negro students were most nearly like those of the whites, who scored highest, although these two groups changed positions on some variables. Several variables demonstrated significant interactions between type of student and sex. It is concluded that freedom-of-choice plans tend to isolate further those Negro students already isolated. (Author)

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September, 1968

U.S. Department of
Health, Education, and Welfare

Office of Education
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UD 007 752

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Final Report

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CHARACTERISTICS OF NEGRO AND WHITE HIGH - SCHOOL STUDENTS PRIOR TO DESEGREGATION

A Study of Negro Students' Freedom of Choice

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September, 1968

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

UD 007 752

PREFACE

This study was carried out under a grant from the U. S. Office of Education. We want to acknowledge the excellent and understanding cooperation we received from the Bureau of Research through many trying days of missed deadlines, computer reruns, changes in positions and the like.

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SUMMARY

The objectives of this study were (1) to describe differences and similarities in various social-psychological variables for segregated Negro, desegregated Negro, and white ninth-grade students; (2) to gather baseline data for analysis of changes in the school functioning of these students; and (3) to assess the tenability of various research instruments for a subsequent longitudinal study of these students.

Data were collected on students attending schools in Kent County, Delaware, which was about to effect complete school desegregation. Previously, the Negro students of Kent County followed the "freedom-of-choice" plan of desegregation. In other words, the Negro students could choose to attend the local desegregated high school or the county segregated Negro high school. The closing of the segregated Negro high school after June, 1966 afforded an opportunity to gather important information on the Negro and white students thus affected.

The sample which served as the basis for the statistical analyses reported in this study was made up of 41 segregated Negro males, 47 segregated Negro females, 31 desegregated Negro males, 26 desegregated Negro females, 313 white males, and 311 white females. These students attended five different high schools.

Two batteries of instruments were administered the subjects

during the last three weeks of May, 1966. Only the desegregated Negro students were tested by a racially different examiner. The instruments elicited a number of cognitive and non-cognitive variables. The former were selected on the basis of their relationship to problem-solving ability. Brief descriptions of the different instruments follow.

Ideas asked the subject to list ideas related to given topics; *Uses*, to list possible uses of a newspaper and a brick; *First Letter*, to write words beginning with given letters; *Missing Facts*, to list facts needed to solve given arithmetic problems; *Planning*, to write the information needed to reach decisions about given practical problems; *Best Answer*, to choose the best and next-best answers to given practical questions.

The nine scales of the *Self-Social Symbols Tasks* required the subject to arrange or mark various geometric symbols and designs as follows: *Individuation* asked the subject to choose a circle representing the self from among majority and minority circles; *Power*, to select a circle representing salient other individuals from circles above, equal to, or below the circle for self; *Esteem*, to arrange salient others and the self in a row of circles; *Centrality*, to draw two circles representing the self and a friend within a rectangle; *Grouping I*, to arrange groups of various individuals including the self; *Grouping II*, derived from *Grouping I* and based on the inclusion or exclusion of parents in the group containing the self; *Identification*, to choose from a row of circles one for the placement of the self relative to the placement of father, mother, teacher, or friend; *Dependency*, to place the self either within or without a triangle of circles formed by parents, teachers, and friends; and *Complexity*, to decide which of three designs varying in complexity represents the self.

Need Achievement asked the subject to write why individuals behaved as described in ten statements; *Test Anxiety*, to check along horizontal lines the degree of his feelings about various testing situations, *Survey of Study Habits and Attitudes*, to indicate by checking from among five options how often he engaged in the behavior described by 75 statements.

The Questionnaire on Self was made up of a number of items from which several variables were derived. *Socioeconomic Status* represents the occupational rating of the subject's father. *Self Concept* is the subject's self report of his academic ability on eight items. *Grade Importance* is the subject's report of the importance of school grades on seven items. Scores were also derived on the basis of the socioeconomic rating of the occupations listed in response to certain items; the subject was requested to list people whom he wanted to be like, who were concerned about him, who were important to him. Social status ratings were also obtained for the occupation the subject indicated he would probably enter and for the one he would like to enter if he had a free choice.

Means, standard deviations and reliability coefficients were presented by student type and sex. These data represent the baseline data for the second purpose of this study.

As for the third purpose, all of the instruments were judged to have adequate reliability for group comparisons. The various instruments maintained very similar rankings in reliability across the segregated Negro, desegregated Negro, and white male and female samples. The coefficient of concordance for the reliability coefficients across the various groups was .79.

The coefficients of correlation between all pairs of variables were found in order to determine the overlap between the variables. The instruments showed moderate correlations for all groups. The white females had the largest number of significant coefficients, while the desegregated Negro females had the smallest. The differences in the number of significant coefficients could not be explained solely in terms of differential sample size.

The relationships between the cognitive and non-cognitive variables was considered. Need Achievement tended to be the most significant and most consistent non-cognitive correlate of performance on the cognitive tests; Self Concept was second. The various scales of the Self-Social Symbols Tasks showed the lowest relationships to the cognitive variables.

To determine the differences among the types of students, a three by two analysis of variance was carried out for each variable (three student types: segregated Negroes, desegregated Negroes, and whites by two sexes: male and female). The results from these analyses are summarized in the table below.

It would be redundant, if not impractical, to discuss all of the differences that appear in the Summary Table. On those cognitive variables most crucial to problem-solving ability, the segregated Negro students demonstrated the lowest performance, while the desegregated Negro students were more nearly like the white students, who scored highest. The differences on the cognitive variables not important to problem solving were inconsistent.

The non-cognitive variables also revealed a number of significant differences among students. Here too, the segregated Negroes usually had the least positive rankings on the variables and were followed in turn by the desegregated Negroes and whites, although the latter two groups often exchanged positions.

SUMMARY TABLE

SIGNIFICANT DIFFERENCES ($p \leq .10$) AMONG SEGREGATED NEGRO, DESEGREGATED NEGRO, AND WHITE MALE AND FEMALE NINTH - GRADE STUDENTS

Variable	Order of Students*	Order of Sex*	Interaction
Ideas	W, DN, SN	F, M	n. s.
Uses	n. s.	n. s.	n. s.
First Letter	SN, W, DN	F, M	n. s.
Missing Facts	W, DN, SN	F, M	SNM > SNF
Planning	W, DN, SN	F, M	DNF > WM
Best Answer	W, DN, SN	n. s.	SNM > DNM
Individuation	n. s.	n. s.	n. s.
Power	DN, W, SN	n. s.	n. s.
Esteem	n. s.	n. s.	n. s.
Centrality	n. s.	n. s.	n. s.
Grouping I	n. s.	n. s.	n. s.
Grouping II	SN, DN, W	n. s.	n. s.
Identification	n. s.	M, F	SNF > SNM
Dependency	W, DN, SN	n. s.	SNM > DNM
Complexity	n. s.	n. s.	n. s.
Need Achievement	W, DN, SN	F, M	n. s.
Test Anxiety	SN, DW, W	F, M	n. s.
Study Habits	n. s.	M, F	n. s.
Socioeconomic Status	W, DN, SN	n. s.	DNF > WM DNF > WF SNM > DNM

SUMMARY TABLE (Continued)

SIGNIFICANT DIFFERENCES (P .10) AMONG SEGREGATED NEGRO, DESEGREGATED NEGRO, AND WHITE MALE AND FEMALE NINTH - GRADE STUDENTS

Variable	Order of Students*	Order of Sex*	Interaction
Self Concept	W, DN, SN	n. s.	DNF > WM DNF > WF SNF>DNM
Grade Importance	n. s.	F, M	n. s.
Who Would You Want To Be Like	n. s.	M, F	n. s.
Concerned People	W, DN, SN	n. s.	n. s.
Important People	W, DN, SN	M, F	n. s.
Occupational Choice	DN, W, SN	F, M	n. s.
Free Occupational Choice	DN, W, SN	n. s.	n. s.

*The order of students and sexes has been listed only if the F ratio for student type or sex was significant. The following abbreviations have been used: segregated Negroes, SN; desegregated Negroes, DN; whites, W; males, M; females, F; not significant, n. s. .

In sum, the analyses of variance showed that the segregated Negro students were poorest in cognitive abilities, self-other relationships, need achievement, test anxiety, self-concept, and so on. The desegregated Negroes were more similar and in some variables even exceeded the white students. The differences among students, however, might be confounded by social class differences.

It could not be determined from the analyses of this study whether the generally superior position of the desegregated Negro student resulted from his desegregation or whether it was the superior Negro student who desegregated when given the opportunity. Whatever the reason, it would seem that the net effect of "freedom-of-choice" desegregation was to isolate even further already isolated Negro students.

CHAPTER I
INTRODUCTION

Some twelve years after the Supreme Court decision on school desegregation, the State of Delaware made plans for the final elimination of separate Negro schools. This report presents a study of three groups of high-school students, residing in four school districts of this border state, who were affected by these plans. It is specifically concerned with students categorized as segregated Negroes, desegregated Negroes, and whites.

The purpose of our study had a threefold objective;

1. To describe initial similarities and differences between Negro and white students with respect to various social-psychological variables that might facilitate or impede school functioning.*
2. To gather baseline data for the analysis of changes in Negro and white students' school functioning following desegregation.

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*Following Neal Gross, the term "school functioning" is employed here to refer to school-related attitudes and behavior, such as, attitudes toward school, persistence in school (as opposed to "dropping out"), participation in extra-curricular activities, learning efficiency, levels of aspiration, and motivation. See N. Gross, "The Sociology of Education" in Sociology Today: Problems and Prospects, eds. R. K. Merton, L. Broom, and L. S. Cottrell, Jr. (New York: Basic Books, Inc., Publishers, 1960), p. 144.

3. To assess the tenability of selected research instruments for a subsequent longitudinal investigation.

This report focuses primarily on the first objective. The second and third objectives, of course, are considered and dealt with, but to a considerably lesser degree.

In this chapter we present the background of our study, a brief review of related literature, the selection of the samples, and the data collection procedures.

Background

Kent County, located in the geographical center of Delaware, is a predominantly rural county with corn, truck crops, soybeans, and potatoes being the major agricultural industries. Canning and other food processing industries are also strong in the county. According to the latest federal census the population of Kent County contained 55,647 whites and 10,004 non-whites, 9,570 of whom were Negroes. Dover, the county seat and state capital had a population of 7,250, including 5,418 whites, 1,806 Negroes, and 26 persons of other racial classifications. The social and cultural barriers between Negroes and whites in the county are similar to those which exist in other rural and small-city areas of border states.

The state of Delaware made noteworthy progress in school desegregation during the year immediately following the 1954 Supreme

Court decision; however, before September, 1959 the progress was concentrated in northern New Castle County, the nothernmost portion of the state. None of the schools south of the capital attempted desegregation after the unfortunate Milford incident in 1954.* After 1959 and prior to 1965, school desegregation in Kent County followed the "freedom of choice" principle, but still was minimal. In 1965 schools in the county were completely desegregated through the eighth grade; and plans were made to phase out William Henry High School, the county's Negro high school at Dover. By September, 1966 schools in the county were completely desegregated. The William Henry High School building was turned over to the Dover School District and put into operation as a middle school.

On learning of the plans for William Henry High School in April, 1966, we requested permission from the schools of concern that we be allowed to gather data on the students who would be involved. Because the communities represented by these schools are like hundreds of southern and border-state communities where similar transitions will take place, we believed that these data would provide useful information.

By the time the necessary approvals were obtained from the schools affected, only about a month of the academic year remained. Actually, because of the particular time of year, we had even less time than usual in which we could have ready access to students who were engaged in such activities as final examinations, class trips, graduation exercises, and the like. The press of time, plus the delay in funding our proposal, necessitated some changes in our original study. These problems are discussed further below.

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*U. S. Commission on Civil Rights. Education. Washington: U. S. Government Printing Office, 1961, Pp. 45-46.

Review of Related Literature

The number and variety of studies that have dealt with comparisons of Negro and white subjects are considerable. Since reviews of the research on this topic date back over half a century (Woodworth, 1916) and many of the studies are beset with all kinds of methodological problems (Dreger and Miller, 1960), we can summarize this aspect of the literature by quoting Otto Klineberg (1963):

> I can only conclude that there is no scientifically acceptable evidence for the view that ethnic groups differ in innate abilities. *This is not the same as saying that there are no ethnic differences in such abilities* . . . . We can, however, say to those who have claimed to find evidence for ethnic differences in innate mentality: You have not proved your case. You have not been able to demonstrate that such differences exist.
>
> We can go a little farther than that. We can point to the improvement in achievement when conditions of life improve. (p. 202, italics in the original).

Of the studies on the relationship between school desegregation and educational achievement, the volume *Equality of Educational Opportunity* (Coleman *et al*, 1966) or the Coleman Report, as it is more commonly called, stands as a landmark. This survey underscores the racial gap in school achievement. The performance of the average Negro student on achievement tests at all grade levels and in all regions of the country places him about one standard deviation below the average white student. The many findings and implications of this survey are much too complex and detailed to summarize adequately.* Perhaps, it would be best at this juncture to let Coleman speak for himself:

> . . . it is interesting to note that this examination of the relation of school inputs to effects on achievement showed that those input characteristics of schools that are most alike for Negroes and whites have least effect on their achievement. The magnitudes of differences between schools attended by Negroes and those attended by whites were as follows: least, facilities and curriculum; next, teacher quality; and greatest,educational backgrounds of fellow students. The order of importance of these inputs on the achievement of Negro students is precisely the same: facilities and curriculum least, teacher quality next, and backgrounds of fellow students most (Coleman, 1968, p.18).

Pettigrew (1968) in his review of the Coleman Report points out that, while critics have challenged on methodological grounds the finding that the most significant correlate of achievement test scores is the social-class climate of a school's student body, the identical finding has been attained by other studies employing very different measures and samples. Since the present study focuses on a number of characteristics of three types of students, the conclusions of Coleman and Pettigrew are particularly important to bear in mind.

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*For an excellent discussion of the Coleman Report, see Equal Educational Opportunity, a special issue of the Harvard Educational Review , volume 38, Winter, 1968. Also of interest is U. S. Commission on Civil Rights, Racial Isolation in the Public Schools (Washington, D. C.: U. S. Government Printing Office, 1967).

The bulk of the literature on the academic effects of school desegregation presents a favorable picture. The consensus seems to be that while Negro pupils improve, the white pupils maintain their achievement level. But desegregation and integregation are not synonomous. Katz (1964, 1967), for example, in his theoretical formulations and discussion of evidence on desegregation develops a powerful argument that the effects of desegregation on Negro school performance involve the interaction of a number of complex variables that need to be recognized and studied. Nancy Hoyt St. John (1965) has neatly summarized the complexity of the problem. In her words,

> . . . both racial balance and "racial atmosphere" have important effects on school children. Without racial balance, a favorable racial atmosphere may be impossible: but once racial balance is attained, two forces may work at cross-purposes for the Negro child . . . On the one hand a more favorable social milieu may tend to raise the aspirations and achievement of Negro children. But on the other hand, they may be placed in an unfavorable competitive position that more than offsets such advantage. If so, only under school conditions that minimize interracial competition will racial balance benefit pupils (p. 294).

More recently, Katz (1968) draws an important implication from the Coleman Report. He states:

> . . . relatively realistic perceptions of one's ability relative to classmates of higher ability need not produce discouragement in the disadvantaged pupil - indeed it may have the opposite effect - provided the child has a secure awareness of opportunities for social and material reward commensurate with his own efforts and capabilities . . . . debilitating anxiety in minority-group students may be more a function of perceived isolation and exculsion from the main American opportunity structure than of awareness of one's intellectual limitations relative to classmates (p. 65).

Much of the research on the effects of desegregation is clouded by various uncontrolled factors. Stallings (1959) reported that tests administered the year before and the year after desegregation in Louisville, Kentucky showed substantial gains in scholastic achievement for both Negro and white second and sixth graders, with the Negroes making proportionately the greater gains. But it cannot be concluded that these gains were due to changes in the racial composition of the Louisville schools. Stallings himself reported that, "the gains were greater where Negro pupils remained by choice with Negro teachers." This indicates, of course, that the "greater" gains can only be attributed to factors other than desegregation, such as increased motivation on the parts of both students and teachers, or general improvements in educational programs and standards.

Rosen (1959) in a study of six different racial and ethnic groups, discovered that achievement motivation was higher among Jews, Greeks and white protestants than among Italians, French-Canadians, and Negroes. The latter groups were comparable, however, to the former in levels of educational aspiration.

Green (1962), employing Detroit samples, compared the levels of motivation of Negro and white eleventh-grade pupils. He found that on three of the motivation sub-tests (the Michigan State M-Scale) there were no differences between the two groups and that on one of the sub-tests the Negro sample scored significantly higher than the white sample. Comparisons of grade point averages, however, indicated significantly higher classroom performance among the white pupils.

Morse (1963), in a study of eighth grade Negro and white pupils in a middle-sized mid-western city, found that the Negro students had significantly higher motivation scores but significantly lower classroom achievement. Another notable difference between the two groups was that intelligence (California Test of Mental Maturity) proved to be significantly better predictor of classroom achievement among the white pupils than among the Negro pupils.

Greene (1962) compared certain measures of "school morale" among white and Negro high school pupils in a large southeastern segregated school system. He reported, among other findings, that (1) a significantly higher proportion of the white than the Negro pupils expressed the wish to be better treated by teachers, whereas a higher proportion of the Negro pupils expressed the wish to do better school work; (2) white pupils were more likely than Negro pupils to be dissatisfied with the amount of school work which they had to do to "keep up" in their studies; (3) Negro pupils reported significantly more favorable attitudes toward the usefulness for every-day living of their school work than did white pupils; and (4) Negro pupils reported significantly more satisfaction with how much they were getting from their school work. Taken collectively, Greene interpreted these findings as indicating that Negro pupils had a more bona fide adjustment to school work than did white pupils or that Negro pupils were less willing than white pupils to report unfavorable adjustments to school work.

Wilson (1968) related the Coleman Report to reference group theory. On the basis of his own evidence and that in the Coleman Report, he finds the fact that Negro students are more affected than white students by the quality of the school staff and student body makes more sense in terms of cognitive skill learning. "It is only among those students who do not acquire the verbal and cognitive skills which are tested through home experiences that variations between schools make a difference." (p. 84).

To summarize simply at this point, the theoretical and empirical considerations suggest much more remains to be learned about the variables that are relevant to the school performance of minority-group children. The present study differs somewhat from previous ones in that it focuses on two groups of Negro students who "voluntarily" attended their schools. What variables characterize these two groups and how they compare with the majority white pupils are the questions of primary concern.

Selection of the Sample

For a number of reasons, we had to limit our study to ninth-grade students. We previously mentioned the limited time we had to collect the data. We thus could not possibly hope to gather data on all the students in all the grades. The ninth grade in each school constituted the largest class. Of the 355 segregated Negro students in attendance in the regular classes of William Henry High School, 105 were in the ninth grade. All but two of these students were scheduled to attend schools in the four school districts which had agreed to cooperate in our study. For follow-up purposes, the ninth grade would obviously be in school the longest and have the greatest exposure to desegregated education. Finally, the ninth-grade classes in the various schools had more courses and other activities in common than did the other grades; this resulted in making them more readily available to us.

All of the ninth-grade pupils in the four school districts who were in attendance during the data gathering sessions, plus the students from the William Henry High School make up the samples for our study. These school districts with the number of ninth-grade pupils in attendance are Dover, 275; Caesar Rodney, 212; Smyrna, 198; and Felton, 71. Of this total of 756 students, we are able to obtain relatively complete data for 681 which break down as follows:

313 white males, 311 white females, 31 desegregated Negro males, and 26 desegregated Negro females. For the 105 segregated Negro students of William Henry High School we got data on 88 individuals, 41 males and 47 females. The median chronological age for the total sample was 15.6 years with a standard deviation of .8. The various sub-groups, for all practical purposes, were identical in chronological age, probably a function of uniform state regulations about school starting age and attendance requirements.

The sample appeared to be representative of semi-rural, small town pupils that might be found in border states.

Data Collection Procedures

Two batteries of instruments were administered during the last three weeks of May, 1966. In the four predominately white schools, the tests were administered to the entire ninth grade in two half-day sessions. The schools in each case made special arrangements, dispensing with regular classes to assist in the administration. Such en masse testing arrangements were not feasible for William Henry High School. Hence, the segregated Negro students were tested in smaller groups during the three-week period. In several instances, a number of William Henry upperclassmen had to be tested. While the data for these students are not included in this report, it should be noted that the results for these older students were in every instance consistent with the data for the segregated ninth grade students. Also it should be pointed out that the segregated Negro students were tested by an examiner of their own race, as were the white students; but the desegregated Negro students were not.

The amount of time we had available limited the number of variables we could consider. Originally we had hoped to include a measure of intelligence and a standardized achievement test battery, but the inclusion of these variables would have necessitated considerably more student time which just was not available. We thus had to decide which variables should receive priority.

Several factors led us to delete the intelligence and achievement tests: The schools administered such tests, and we would be duplicating data they would obtain on their own. The cognitive variables we did use elicit intellectual factors which overlap to some extent with intelligence and achievement, so again we would be redundant. Finally, we reasoned that a number of studies have already been conducted using the more traditional measure of achievement and IQ, but to our knowledge very few attempts have been made to look at segregated and desegregated students through the use of instruments designed to elicit problem solving abilities or variables related to Guilford's (1959) model of human intellect.

Eleven different instruments were administered to the sample of ninth-grade students. Some of the measures yielded more than one score. For the first session the instruments were administered as follows: *Test of Insight*, *Questionnaire on Attitudes Toward Different Testing Situations*, *Best Answer*, *Planning*, and the *Brown-Holtzman Survey of Study Habits and Attitudes*. The sequence for the second session was: The *Questionnaire on Self*, *Missing Facts*, *Ideas*, *Uses*, *First Letter*, and the *Self-Social Symbols Tasks*. Six of the instruments are designed to measure cognitive variables, while five elicit a number of non-cognitive constructs. In the testing sessions a number of rest breaks provided ample opportunity for the students to relax and not become overly fatigued. Each instrument is described more fully in the next chapter. Copies of all tests except the commercially published *Survey of Study Habits and Attitudes* are included in the Appendix.

CHAPTER II

DESCRIPTION OF INSTRUMENTS

In the preceding chapter, we described the procedures for data collection and noted the sequence in which the instruments were administered to the ninth-grade samples. What we present in this chapter is a description of the instruments and the rationale for their selection. It should be pointed out that data gathering sessions were conducted under our direct supervision.

The instruments have been classified under various headings representing a number of different constructs. As noted in Chapter I, six of the tests measured cognitive variables; five, non-cognitive ones. The latter term is not entirely satisfactory; the constructs elicited by various instruments are diverse and represent a number of rather different lines of research on personality. Each of the measures has been used previously in research.

All of the cognitive variables were used by Tate, Stanier, and Harootunian (1959) in their study of good and poor problem-solvers. Also we thought it would be of interest to look at divergent thinking, a variable which does not differentiate good and poor problem-solvers, but which the literature on creativity regards as important. One additional variable, word fluency, was included because it has been found to be an important and independent correlate of reading achievement among junior high-school students (Harootunian, 1966). Perhaps it should be emphasized that no claim is made for the appropriateness of the names given the variables; they can best be described in terms of the operations required by the respective instruments.

We discuss first the cognitive variables in the increasing order of their importance to problem-solving ability and then describe the non-cognitive variables. The latter's sequence is not relevant to problem solving.

Ideational Fluency

Ideational fluency refers to the facility to call up ideas in quantity. Guilford (1967) and others (Getzels and Jackson, 1962) have discussed this construct usually as an aspect of divergent thinking or creativity, and a number of factor analyses of mental abilities have yielded a factor identified as ideational fluency. Tate and his associates (1959) found that ideational fluency tests, as they are usually scored, did not differentiate good and poor problem-solvers. However, when these same measures were scored for quality-in-fluency, good problem solvers were significantly better than poor problem solvers.

In the present study, we used two ideational fluency tests, Ideas and Uses, scored in the traditional manner; in other words, where quantity, rather than quality, is the important variable. The descriptions of the tests and scoring procedures follow.

Ideas was used by Tate *et al* (1959) who based it on a test by Adkins and Lyerly (1952). The subject is asked to write as many ideas as he can about two topics, "A man going up a ladder" and "A man dirving a truck down a street." Five minutes are allowed for each topic. The score is the total number of ideas listed.

Uses was adapted by Tate *et al* (1959) from Guilford (1956). The subject must list as many uses as he can for two common objects, a newspaper and a brick. Four minutes are allowed for each object. The score is the total number of uses listed.

Word Fluency

As noted above, we included a word-fluency test because it was found to be an important correlate of reading achievement. As fas as problem solving is concerned, word fluency was found to increase in importance as the number of restrictions increased (Tate *et al*, 1959, McNemar, 1955). The same result, however, does not hold for reading achievement (Harootunian, 1965). At any rate, factor analyses of mental abilities since Thurstone's now classic study have consistently yielded a word-fluency factor.

First Letter , the test used in our study, has one restriction, namely that the words listed begin with a given letter. Its description and scoring procedure follow. A copy of the test is in the Appendix.

First Letter is given in two parts. In the first part, the subject is asked to write in three minutes as many words as he can beginning with P; in the second, words beginning with B. The score is the total number of recognizable words on the two parts minus duplications.

Problem Recognition

Relatively little is known about what has been variously termed problem recognition, problem formulation or problem orientation. Working on a solution to a problem that is presented is not the same as discovering a problem that needs solution. (Getzels, 1964). Both intuitively and empirically, however, the dictum, "a problem well stated is a problem half solved" would be difficult to contradict.

The long-term work of Guilford (1967) and his associates is particularly relevant. They have identified through factor analysis two constructs, sensitivity to problems and conceptual forsight, which would appear to be related to problem recognition. Whatever label one attaches to this construct, it sharply differentiates good and poor problem-solvers (Tate, et al, 1959).

The tests we selected, Missing Facts and Planning, were devised by Tate et al (1959) and based on Guilford's studies. They in all likelihood elicit more than one intellectual ability. Descriptions of the tests together with scoring procedures are included in the Appendix.

Missing Facts consists of 30 arithmetic problems. Some of the problems lack the necessary information for solution. Where such information is missing, the subject has to list the fact or facts that are needed to solve the problem; where all the necessary information is given, the subject must write "none". Thirty minutes are allowed for the test. The score is the number of blanks correctly filled or labelled "none".

Planning consists of seven problems. For each problem the subject must write the information needed before a solution can be reached. Twenty minutes are allowed for the test. The score is the number of facts listed.

Judgment

While problem recognition is essential during the initial phase of problem solving, judgment is regarded as a "conclusive or decisive process that brings a thoughtful episode to an end" (Johnson, 1955, p. 280). Judgment is operating during the various phases of problem solving, but it likely becomes crucial when the problem solver has to decide among possible solutions.

The studies of Guilford (1967) and his colleagues suggest that tests of judgment lack factorial purity. The abilities that seem to be most relevant to judgment are practical estimation, practical judgment, and logical reasoning. According to Johnson (1955), the abilities important for judging are (1) abstracting pertinent data from the complex situation, (2) adopting and maintaining a set for the pertinent data, (3) attending to several data simultaneously, (4) weighting each appropriately, (5) integrating the information so that it focuses on one of the response alternatives, and (6) exhibiting caution or deliberativeness.

Best Answer is the test used to measure judgment. It was constructed by Tate et al, (1959) and was suggested by Cardall's (1950) Test of Practical Judgment. A brief description of the test and scoring procedure follow. A copy of the test is in the Appendix.

Best Answer is made up of 36 questions. Each question has four possible answers. The subject is required to assign the rank of 1 to the best answer. In scoring the answers are ranked from 1, best, to 4, worst, on a key. The differences between a subject's ranking and the key rankings are summed and subtracted from 100. Hence the highest possible score is 100; the lowest, -44. Twenty-five minutes are allowed for the test.

Self-Other Relationships

The "self" has been a long-time concern of psychology and education. Kehas points out though that when a term such as self-concept can be made to mean so many different things by so many different theorists, "there is danger that it may, in effect, become meaningless". (Kehas, 1962, p. 50). Wylie (1961) also expressed concern about the research on self-concept. She notes that "the total accumulation of substantive findings is disappointing, especially in proportion to the great amount of effort which obviously has been expended". (Wylie, 1961, p. 317). Wylie offers a number of suggestions for overcoming this lack of results. The most salient of these may be paraphrased as (1) the development of more scientific theories of self and (2) more careful study with more precise instrumentation of limited theoretical constructs.

At least two different and continuing research endeavors seem to have applied Wylie's suggestions. The work of Long, Ziller, and Henderson (1968a, 1968b) represents one of these, and the efforts of Brookover (1962, 1965, 1967) and his associates the other. In this section, we are primarily concerned with the former, but much of the discussion has relevance for Brookover's research on self-concept which we consider separately below under the section Questionnaire on Self.

The importance of more sophisticated instrumentation for the measurement of complex phenomena such as the self is exemplified in a recent study by Greenwald and Oppenheim (1968). These investigators found that previous evidence, which showed a greater number of misidentifications by Negro children who had to choose between black and white dolls, does not replicate when an "in-between (mulatto) doll" is added. In short, the apparent racial differences in misidentifications appear to be an artifact of the measures or designs that have been used previously.

Among the limitations of many studies of self-concept has been the use of measures which have been both global and verbal. (Wylie, 1961).

The *Self-Social Symbols Tasks* devised by Ziller, Long and Henderson (1964) overcomes both of these shortcomings. These tasks have the additional advantage of being theoretically derived (Ziller, 1967). The instrument lends itself to and has been used in studies of such diverse subjects as nursery school children, adolescents, advantaged and disadvantaged subjects, and non-American cultures. (Long, 1967). The evidence for its validity and reliability has been accumulating for some five years, and the instrument has much promise.

The *Self-Social Symbols Tasks* yield scores on nine different and relatively independent constructs. The assumption underlying this instrument is that individuals are able to communicate different aspects of their self-social system symbolically and that certain symbolic patterns have similar meaning (e.g., physical distance in the test may represent psychological distance in the individual's life). The scales of the various self-social constructs are not readily amenable to verbal description. The reader can best understand them by consulting the copy of the test in the Appendix.

The *Self-Social Symbols Tasks* are a series of 56 items which require the subject to select and arrange various symbols to represent himself in relation to salient other people. There is no time limit for the tasks, and most junior high school subjects can finish them in about 50 minutes. Descriptions of the nine constructs and the scoring procedures follow.

Individuation refers to the degree to which an individual differentiates himself from his peers (Long et al, 1968b). The two poles of this dimension are considered to be "like others" and "different from others." There are ten individuation items; each requires the subject to choose a circle to represent the self which is either the same or different from the circles representing peers. The selection of a different circle by the subject is assumed to express a greater degree of individuation. In scoring, one point is given to each item if the subject chooses a symbol which is different from the majority of symbols. The highest possible score thus is 10, and a higher score represents greater individuation or minority identification.

Power is measured on six items requiring the subject to select a circle to represent the "other" person. It is assumed and there is evidence that the placement of certain authority figures in relation to the self reflects the conception of self as superior, equal, or inferior to the other person (Long et al, 1968b). The circles are arranged in five positions above, even with, or below the self. A score for Power is obtained by awarding five points if the "other" is placed in the lowest position, four in the next position, and so on following a counter-clockwise direction. The highest possible score on all six items thus is 30; the lowest, 5.

Esteem or self-esteem is defined as the importance one attributes to self in comparison to others. The six items for Esteem require the subject to arrange the self and five specified other persons in a row of circles. There is evidence to support the assumption that positions to the left represent greater importance (Long et al, 1968b). A score on each item is derived by awarding one to six points depending on the placement of self. The circle on the extreme right receives one point, with an additional point added for each circle to the left. Thus, a score of six represents the highest self-esteem on an item, and the maximum total score for Esteem is 36.

Centrality requires the subject to draw two smaller circles within a larger circle. The two smaller circles represent the self and a friend. It is assumed that self-centrality reflects the focusing of attention on the self, rather than on the other and that placement of the self closer to the center of the larger circle represents greater self-centrality. (Long et al, 1968b). Thus, Centrality is scored by awarding one point on each of six items if the self is placed closer to the center of the stimulus circle.

Grouping I and Grouping II represent one of the two ways identification with others is measured. Identification which follows immediately below is the other way. Grouping I and Grouping II are both concerned with eliciting group identification and reflect "the social inclusiveness of the individual" (Long et al, 1968b). In the four items for Grouping I, the subject has to arrange arrays of ten people, including the self, into as many groups as he wishes. The score on each item is the number of people in the group containing the self (including the self).

Grouping II is derived from two of the items used for Grouping I. The score for Grouping II depends on whether the parents are included in the group containing the self. If both parents are included, the item is worth two points; one parent, one point; and no parents, no points.

Identification asks the subject to select from a row of circles one to represent the self. The extreme right or left circle in each row represents another person (father, mother, friend, or teacher). It is assumed that the greater the physical distance between the self and the other, the less the identification. There is evidence representing a variety of populations that supports this assumption. (Long et al, 1968b). A score for Identification is obtained as follows: one point is awarded if the self is placed next to the other; two points, if there is one circle intervening; three points, if there are two circles intervening; and so on. Thus, the lower score means greater identification. Score on Identification was simply the total points obtained on all eight items.

Dependency refers to the degree to which a person conceives himself as part of a group of others, as opposed to a conception of the self as a separate entity. The six items measuring Dependency require the subject to draw a circle representing the self in a rectangle containing three circles arranged in a triangle and representing his parents, teachers, and friends. A person's score is then determined by whether his self is placed within or without the triangle. One point is scored for each item in which the self is drawn inside the triangle. Henderson (1967) has called attention to another interpretation for these items. Placement within and without the triangle may be more a matter of socialization (versus isolation) rather than dependency. At any rate, the six items would seem to be measuring an important construct.

Complexity was derived by Long et al(1968b) from the work of Glanzer and Clark (1963). The subject must choose from among three designs, varying from simple to complex, the one which represents the self. The most complex design receives a score of three, the middle design, two; and the simplest design, one. There are ten items for Complexity. Thus the highest possible score is 30.

Achievement Motivation

Achievement motivation, need for achievement, need achievement (and the abbreviations n Achievement and n Ach) all are terms used to describe achievement-oriented behavior. Such behavior is instigated when an individual expects that his performance will be evaluated in relation to some standard of excellence (Atkinson, 1958; McClelland, 1961). In other words, achievement motivation comes into play when an individual is aware that the outcome of some venture is his responsibility, when he anticipates knowing whether he will succeed or fail, and when he is uncertain about the outcome of his effort.

The endeavors of McClelland (1953, 1955, 1961) and Atkinson (1958, 1964; Atkinson and Feather, 1966) and their respective colleagues represent the main research thrust in the study of achievement motivation. Studies have shown, for example, that need for achievement is higher in middle class than in working class individuals (Douvan, 1956; Rosen, 1956; Milstein, 1956), higher among Jews than Italians (Atkinson and Feather, 1966) and higher for whites than for Negroes (Rosen, 1959; Mingione, 1965). The relationship between ethnicity, social class, and need for achievement, however is far from clear, especially where school-age subjects are concerned. Irwin Katz (1967) notes that after two decades of research on need for achievement only two studies (Rosen, 1959, Mingione, 1965) involving relatively small samples have yielded evidence that Negro children are lower on need for achievement than white children. According to Katz, "the lower-class Negro pupil's disinterest in classroom learning may be less a matter of his lacking the achievement motive than of it being directed in nonintellectual pursuits." (Katz, 1967, p. 144). The paucity of evidence in achievement motivation has not detracted writers from speculating about the assumed differences between Negroes and whites. McClelland (1961), for example, postulates that Negroes are lacking in need for achievement because of the matriarchal structure of the Negro family. Others attribute the Negro's "lack of the will to learn in school" to child rearing practices in the Negro home (Ausubel, 1963), to a lack of early stimulation and to deprivation of sensory experiences (Hunt, 1961), to inadequate ability to use language (Bereiter and Engleman, 1966), and to cultural conflict (Inkeles, 1966; Clark, 1965; Cloward and Jones, 1963; Riessman, 1962). Whatever the reasons, need for achievement would seem to be one of the variables that should be looked at in a study of segregated and desegregated Negroes and whites.

We measured need for achievement through the Test of Insight, a projective test devised by French (1958). Of the instruments we administered, the Test of Insight was by all counts the most difficult and expensive to score. In the next chapter, we present the split-half (random halves) reliability coefficients for the various groups. The interscorer reliability on the Test of Insight, based on a sample of 100 randomly chosen subjects, was about .89. One rater who had achieved adequate reliability (.90) on the practice materials for scoring need for achievement (Atkinson, 1958) scored all of the tests. The Test of Insight was in every instance the first one administered to the different groups of students and was given under neutral conditions. In other words, to the best of our knowledge, the achievement motive in the students was aroused neither by the directions for the test nor a prior achievement-oriented situation.

Test of Insight consists of ten statements such as "Dave likes a good argument." The subject is required to write briefly why the person in the statement behaves as he does. For female subjects, girls' names are used in the statements. The subject's responses were then scored according to the procedures outlined in Atkinson (1958, Ch. 12). An individual's total need achievement score is the sum of his scores on the ten items. A copy of the test is in the Appendix.

Test Anxiety

In Chapter I, we quoted Katz's (1968) speculation that debilitating anxiety among Negroes in school may be primarily a function of perceived isolation and exclusion from the main opportunity structure of American society. Sarason and his co-workers(1952, 1960, 1964) have identified a construct, test anxiety, which relates to this problem. Their interest in test anxiety grew out of the lack of attention that research has paid to the nature and role of internal motivating states during performance on intelligence tests and other school examinations.

To measure test anxiwty, a self-report instrument that asks the subject to indicate how he feels about various testing situations has generally been employed. Performance on such questionnaires has been found to be related to behavioral variables generally associated with anxiety as perspiration, inappropriate laughter, excessive movements, and the like. (Mandler and Sarason, 1952). Also it has been shown in a number of experimental studies that high anxiety subjects, as identified by these self-report measures, suffer much greater decrements than low anxiety subjects in the performance of various tasks when ego involvement and similar variables are manipulated (Sarason, Mandler, and Craighill, 1952).

In a four-year longitudinal study (Sarason, 1964) of the relation of test anxiety to performance on intelligence and achievement tests, among other results it was found that the negative correlation between test anxiety and IQ tends to be small in first grade but increases significantly in the negative direction over time; the relationship between anxiety and achievement is stronger than the relationship between anxiety and IQ: and anxiety is related earlier and more strongly to reading than to arithmetic scores.

There is an important connection between test anxiety and the construct of achievement motivation just discussed above. Atkinson (Atkinson and Feather, 1966) in the development of his theory of motivation points out that any situation in which the achievement motive is aroused is also one that elicits the motive to avoid failure. Thus, the individual is confronted with an approach-avoidance conflict, and what an individual does depends on (1) the relative strength of these two motivational tendencies, (2) the attractiveness of the goal, and (3) the subjective probability of success or failure. Without further elaborating the theoretical details specified by Atkinson, we stress only that the usual way the motive to avoid failure has been assessed has been through some measure of test anxiety. Hence, responses of an individual to a questionnaire about test anxiety have important theoretical implications.

The Questionnaire on Attitudes Toward Different Testing Situations (Mandler and Cowen, 1958) is the instrument used to measure test anxiety. The questionnaire consists of 36 statements about various aspects of test-taking behavior. Each statement is followed by a horizontal line at the ends of which are written opposing feelings. In the middle of the line the word "midpoint" appears. The subject is asked to put an "x" on the point on the line which indicates the strength of his feeling about that particular statement. In scoring only 32 items are considered (Items 1, 16, 21 and 29 are not scored). Each of the items is scored on a nine-interval scale. The graphic scale is divided into nine equal intervals, and the item is scored depending into which interval the subject's mark falls. The interval that represents little or no anxiety is given a score of one, the next interval, a score of two; and so on up to the high anxiety end of the scale which receives a score of nine. A person's total score is the sum of his points on the 32 items; the higher the score, the more anxious is the individual. A copy of the questionnaire is included in the Appendix.

Study Habits and Attitudes

Evidence indicates that, despite lower achievement levels, Negro students do not express less interest in scholastic activities than whites (Katz, 1968). Coleman (1966), for example, reported that Negro twelfth graders actually expressed more interest in school than whites. The inclusion as a variable of our subjects' practices and attitudes toward scholastic endeavors, therefore, was thought to be a fruitful one.

The fact that the Survey of Study Habits and Attitudes (Brown and Holtzman, 1956) was readily available and had been used extensively made it a logical choice. While this instrument was not originally intended for ninth-grade populations, our previous experience with it indicated that it would not be inappropriate.

Survey of Study Habits and Attitudes consist of 75 statements. On a separate answer sheet, the student must respond to each statement according to whether he rarely, sometimes, frequently, generally, or almost always does or feels as the statement suggests. The answer sheets are scored according to the instructions provided by Brown and Holtzman (1956). The higher score represents more appropriate study habits and attitudes.

Questionnaire on Self

Earlier in this chapter we discussed self concept as one of the relevant constructs in our study. In this section, we consider the measurement of self-concept and related variables through a different frame of reference.

Brookover and his students (1962, 1965, 1967) have for several years been conducting a series of studies focusing on the individual's self-concept of his ability. Their theoretical stance has been that of the symbolic "interactionist", as exemplified by George Herbert Mead. A self-report instrument the Self Concept of Ability Scale has been devised to measure the academic self-concept of students. This scale has been found to be positively correlated with achievement in school, even when IQ is held constant.

The use of the Self Concept of Ability Scale with Negro pupils indicates that the correlation coefficient between self-concept of ability and grade point average is significantly lower among Negroes than whites. White students have significantly greater mean scores than Negroes on their perceptions of how their parents evaluate them, self-concept of ability, grades in school, and intelligence. But, more noteworthy, self-concept of ability is a much better predictor of Negro school performance than is intelligence. In short, the evidence suggests that "the Negro student's conception of his ability to succeed in school and his motivation to do so apparently provide a better basis for forecasting school achievement than measures of intelligence" (Morse, 1967, p. 209).

The interaction between self-concept and school functioning is summarized by Coleman (1966). In his words,

> If a child's self-concept is low, if he feels he cannot succeed, then this will affect the effort he puts into the task and thus, his chance of success. It is true, of course, that his self-concept is affected by his success in school and it is thus hard to discover the effect of self-concept upon achievement. But as a factor in its own right, it is an important outcome of education (p. 281).

On the basis of responses to three verbal questionnaire items, Coleman found no differences in self-concept between Negroes and whites, but there were differences between these two groups and other minority groups. He also reported that, of all the variables measured in his survey, attitudinal variables, which, of course, include self-concept, showed the "strongest relation to achievement."

The _Questionnaire on Self_ was adapted from Brookover (1962) and yields information on a number of different variables in addition to _Self-Concept of Ability_. The questionnaire was the first instrument administered in the second battery and required about 40 minutes to complete. It consisted of four parts. The first section is largely background information on the student; the second requests the student to report his plans and aspirations about his educational and occupational goals; the third asks the student about significant other individuals in his life; and the fourth contains the _Self Concept of Ability Scale_ followed by seven items that reflect the importance to him of his grades in school. From this questionnaire, we derived eight scales of which only three are considered in the analysis reported in Chapter III: *Socio-economic Status*, *Self Concept*, and *Grade Importance*. For the analysis of variance in Chapter IV, we include information from several other questionnaire items. Descriptions of all variables and scoring procedures follow. A copy of the *Questionnaire on Self* is in the Appendix.

Socio-economic Status was obtained from the subject's response to the items, "What does your father (or whoever supports your family) do for a living? and "Describe what your father (or whoever supports your family) does on the job." Ratings from the *Duncan Socio-Economic Index for All Occupations* (Duncan, 1959) were assigned to the occupation listed. Where the occupations in response to the first item were not sufficiently specific, the descriptions in response to the second item were used. Occupations not included by the Duncan index were given ratings on the basis of their similarity to included occupations.

Self Concept is the *Self Concept of Ability Scale* devised by Brookover (1962). It is made up of eight questions, each followed by five statements which describe how a person views himself. In scoring, five points are given to the most positive or favorable option; four, to the next; and so on. The highest possible score then is 40; the lowest, 8.

Grade Importance was also measured by items devised by Brookover (1962). The student is asked to respond to seven items about grades in school, each item followed by five options. The students' responses are scored as in the Self Concept of Ability Scale. The highest score obtainable is 35; the lowest, 7.

Who would you want to be like? is scored by asking the student to list his response to the question, "If you could be like anyone in the world, who would you want to be like? The occupations of the person so listed are then assigned ratings from the Duncan Socio-Economic Index for All Occupations following the procedure described under Socio economic Status.

Concerned People is the socioeconomic rating, as described above, assigned to the first response a subject makes to the request to list the names of the people who he feels are concerned about how well he does in school.

Important People is the socioeconomic rating, as described above, assigned to the first response the subject makes to the request to list the names of the people who he feels are important in his life.

Occupational Choice is the socioeconomic rating assigned to the subject's response to the question "What occupation are you pretty sure you will be able and plan to follow?"

Free Occupational Choice is the socioeconomic rating described above that is assigned to the subject's response to the item, "If I were absolutely free to follow any occupation I wanted, my choice would be."

Summary

During two half-day sessions, 11 instruments were administered under our direct supervision to groups of segregated Negro, desegregated Negro, and white students. Six of the instruments elicited cognitive constructs. These constructs and their tests are as follows: ideational fluency, *Ideas and Uses*; word fluency, *First Letter*; problem recognition, *Missing Facts* and *Planning*; and judgment, *Best Answer*.

The five non-cognitive instruments yielded scores on 20 variables. The *Self-Social Symbols Tasks* gave scores on self-other relations in terms of *Individuation*, *Power*, *Esteem*, *Centrality*, *Grouping I*, *Grouping II*, *Identification*, *Dependency* and *Complexity*. The *Test of Insight* measured need achievement. The *Questionnaire About Attitudes toward Different Testing Situations* is a measure of test anxiety. The *Survey of Study Habits and Attitudes* elicits school study habits and attitudes. The *Questionnaire on Self* contains items that yield measures of *Socioeconomic Status*, *Self Concept*, *Grade Importance*, and in addition certain other items were scored according to the subject's responses to questions about various salient people in his life and about his occupational goals.

CHAPTER III

BASELINES AND RELATIONSHIPS OF THE VARIABLES

As specified in Chapter I, the purposes of this study were (1) to describe initial differences in social-psychological variables among segregated Negro, desegregated Negro, and white ninth-grade pupils; (2) to collect baseline data for the analysis of changes that might result from desegregation; and (3) to assess the appropriateness of the instruments used for a subsequent longitudinal study. In this chapter, we are concerned with the second and third of these purposes. In Chapter I V we consider at length the first purpose.

Before looking at the data, we need to note a number of limitations and cautions. First, several pupils in each of the groups were absent during the testing sessions so that the question of bias in our samples is ever present. As far as we could determine, nothing special characterized the absentees.

Second, several of our samples are relatively small. The samples of desegregated Negro males and females, for example, number 31 and 26 respectively. It is, of course, much more difficult to attain statistically significant findings when sample size is so limited. As well, the generalizations from such samples have large errors attached to them. Perhaps, even more important is that the smallness of the samples might be a variable in itself. In other words, our samples of desegregated Negroes may represent desegregated Negro pupils who make up only a relatively small percentage of their schools.

Third, in some of the samples the variables are restricted in range. Consequently the coefficients of correlation are lower than they would have otherwise been. The variance of the segregated Negro females on Socioeconomic Status, for example, is about one-third the variance of the other female samples. In addition to making the statistical analyses of this study more difficult because of the violation of the homogeneity-of-variance assumption, these differences in variance are, of course, important in themselves.

Finally, there are probably several moderator variables operating to obscure some of the relationships. In Chapter I we noted that IQ has not been considered as a separate variable; there are any number of other variables that could be relevant. An obvious one is the environment of the home. The presence or absence of a father in the home is another. These and other variables which have not been considered could account for the lack or presence of significant findings in several instances.

In Tables 1 through 6, we present the means, standard deviation, and reliability coefficients for each of the samples on the variables. These data not only describe the respective samples, they also represent baselines for a longitudinal study of these subjects.

TABLE 1

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR SEGREGATED NEGRO MALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	26.37	9.30	.95
Uses	20.93	9.26	.90
First Letter	59.00	20.37	.97
Missing Facts	8.95	5.73	.91
Planning	8.02	3.98	.77
Best Answer	42.00	12.37	.96
Individuation	8.00	1.76	,92
Power	15.90	3.15	.78
Esteem	23.90	7.01	.94
Centrality	2.29	1.38	.60
Grouping I	17.29	5.34	.89
Grouping II	3.12	1.10	.82
Identification	22.12	8.07	.90
Dependency	3.83	1.83	.86
Complexity	22.59	8.24	.95
Need Achievement	6.78	6.46	.69
Test Anxiety	167.29	40.46	.95
Study Habits	29.73	11.70	--
Socioeconomic Status	21.02	15.04	--
Self Concept	24.37	3.27	.49**
Grade Importance	20.51	2.76	.43**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

TABLE 2

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR SEGREGATED NEGRO FEMALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	31.38	13.96	.93
Uses	22.62	10.63	.88
First Letter	67.02	24.16	.92
Missing Facts	7.66	4.61	.89
Planning	9.60	4.22	.81
Best Answer	33.32	10.31	.97
Individuation	7.36	2.07	.89
Power	15.30	2.92	.67
Esteem	22.98	6.86	.91
Centrality	2.79	1.63	.56
Grouping I	16.11	6.95	.90
Grouping II	3.06	1.15	.82
Identification	25.98	10.74	.82
Dependency	2.72	1.96	.86
Complexity	21.34	4.44	.91
Need Achievement	10.00	5.96	.61
Test Anxiety	173.98	34.27	.84
Study Habits	27.32	9.66	--
Socioeconomic Status	16.13	7.28	--
Self Concept	25.13	4.09	.60**
Grade Importance	22.28	3.08	.57**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

TABLE 3

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR DESEGREGATED NEGRO MALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	27.23	11.18	.92
Uses	19.77	7.56	.82
First Letter	46.90	14.14	.82
Missing Facts	10.10	5.88	.96
Planning	10.03	4.37	.85
Best Answer	40.71	13.67	.93
Individuation	7.00	2.50	.86
Power	17.45	2.92	.62
Esteem	20.58	6.31	.73
Centrality	2.84	1.42	.52
Grouping I	15.22	6.03	.81
Grouping II	2.97	1.54	.68
Identification	22.00	9.71	.86
Dependency	3.58	2.41	.65
Complexity	22.94	3.00	.82
Need Achievement	9.65	5.41	.58
Test Anxiety	159.97	36.64	.96
Study Habits	27.16	9.42	--
Socioeconomic Status	18.68	9.36	--
Self Concept	24.10	4.90	.62**
Grade Importance	21.45	3.09	.57**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

TABLE 4

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR DESEGREGATED NEGRO FEMALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	32.27	8.47	.94
Uses	24.04	8.43	.92
First Letter	56.88	17.42	.94
Missing Facts	13.62	4.56	.81
Planning	13.92	3.21	.76
Best Answer	45.85	10.89	.87
Individuation	7.19	2.83	.83
Power	17.69	4.24	.56
Esteem	23.73	11.45	.69
Centrality	3.00	1.62	.44
Grouping I	16.69	10.45	.79
Grouping II	2.77	1.48	.72
Identification	20.81	11.37	.84
Dependency	4.04	2.03	.89
Complexity	22.77	3.76	.84
Need Achievement	8.85	5.20	.37
Test Anxiety	175.92	31.08	.96
Study Habits	26.27	10.83	--
Socioeconomic Status	38.85	19.77	--
Self Concept	27.31	5.49	.73**
Grade Importance	21.54	4.77	.69**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

TABLE 5

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR WHITE MALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	32.04	9.76	.91
Uses	20.98	7.64	.88
First Letter	49.68	13.66	.90
Missing Facts	16.09	5.82	.88
Planning	12.65	3.78	.86
Best Answer	48.84	23.76	.82
Individuation	7.10	2.56	.80
Power	16.45	3.60	.61
Esteem	22.13	7.42	.81
Centrality	2.71	1.79	.65
Grouping I	15.32	5.88	.77
Grouping II	2.57	1.64	.69
Identification	24.88	10.99	.81
Dependency	3.90	2.24	.80
Complexity	22.75	3.89	.85
Need Achievement	10.21	6.01	.57
Test Anxiety	153.32	31.41	.94
Study Habits	27.73	12.33	--
Socioeconomic Status	35.57	22.09	--
Self Concept	26.28	5.93	.78**
Grade Importance	20.26	4.30	.61**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

TABLE 6

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS ON THE VARIABLES FOR WHITE FEMALES

Variable	Mean	Standard Deviation	Reliability Coefficient*
Ideas	33.75	9.68	.90
Uses	21.18	7.42	.75
First Letter	54.05	13.14	.89
Missing Facts	16.89	6.25	.89
Planning	14.79	3.84	.71
Best Answer	52.03	10.51	.80
Individuation	7.41	2.77	.83
Power	16.29	3.14	.35
Esteem	22.41	6.97	.80
Centrality	2.77	1.90	.66
Grouping I	15.32	6.94	.80
Grouping II	2.58	1.67	.74
Identification	21.98	9.76	.83
Dependency	4.13	2.10	.82
Complexity	23.04	3.57	.73
Need Achievement	11.19	6.04	.55
Test Anxiety	171.37	34.36	.92
Study Habits	25.15	10.26	--
Socioeconomic Status	35.53	22.94	--
Self Concept	26.14	5.04	.66**
Grade Importance	21.10	4.09	.57**

*Unless otherwise indicated, split-half coefficient stepped-up by the Spearman-Brown formula.

**Estimated by Hoyt's method.

As noted above, the differences among the groups are discussed in the next chapter.

It should be stressed that, notwithstanding the large differences in sample size, the instruments are similar in reliability across the six groups. The most reliable instruments are Ideas, Test Anxiety, and First Letter, while Grade Importance, Need Achievement and Centrality are the least reliable. There are, however, some instruments which are not similarly reliable across groups; the reliability coefficient for Power ranges from .35 for white females to .78 for segregated Negro males. To determine just how consistent the various instruments were across the different samples, we calculated the coefficient of concordance. This coefficient is .79 and indicates that there is substantial agreement among the rankings of the tests in reliability for the various groups of subjects. In other words, the tests tend to rank similarly in reliability with the different groups of subjects. With few exceptions, all of the instruments possess sufficient reliability in all samples to be used in studies involving group comparisons.

One of the factors that needs to be considered in any battery of tests is the degree of overlap among the various measures. If the instruments are eliciting variables which are substantially the same, then they would be redundant for a longitudinal study. Another factor of concern may be the race and sex differences which are reflected in the coefficients of correlation.

In Tables 7 through 12, the product-moment coefficients of correlations between all pairs of tests are given. The number of significant coefficients in each table, of course, reflects the size of the sample. Therefore, it is not surprising that the samples of white students have many more significant coefficients of correlation than the Negro samples. The number of significant coefficients are as follows: segregated Negro males, 45; segregated Negro females, 47; desegregated Negro males, 49; desegregated Negro females, 27; white males, 78; and white females, 94. Just why there are so few significant relationships for the desegregated Negro females and so many more for the white females cannot be explained solely in terms of differential sample size, since the respective male samples number approximately the same in each case. These differences probably reflect interactions among the variables, the type of student (segregated Negro, desegregated Negro, white) and sex. Some of these interactions are brought out through the analyses of variance in Chapter IV.

One way of interpreting the relationships described in Tables 7 through 12 is to look at the coefficients in terms of the cognitive and non-cognitive variables. The cognitive variables,except for the desegregated Negro females, tend to be significantly related to one another in all groups. The coefficients of correlation between Uses and Best Answer are the only ones which consistently fail to attain

TABLE 7

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR SEGREGATED NEGRO MALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	75	68	40	33	52	12	06	21	18	10	23	13	23	-03	47	06	-39	06	07	-11
2. Uses		76	40	44	62	14	07	33	09	03	20	12	30	10	50	13	-14	-01	07	-14
3. First Letter			56	41	58	12	20	24	17	-04	23	02	39	00	51	12	-28	10	-02	-10
4. Missing Facts				45	69	22	21	01	30	-04	14	-38	30	01	55	18	-01	08	13	32
5. Planning					46	26	08	23	24	03	09	-14	23	14	61	24	-14	13	30	14
6. Best Answer						26	35	24	12	-19	11	-25	58	-10	28	01	10	-04	23	-21
7. Individuation							36	38	-14	-31	-10	-43	39	19	43	20	-10	26	30	12
8. Power								15	-43	-11	26	-30	43	01	12	12	-16	-03	25	03
9. Esteem									-13	-14	34	-23	27	-06	33	40	06	-10	17	-06
10. Centrality										09	-06	11	-02	-18	02	-05	26	30	-05	17
11. Grouping I											28	37	-46	-03	-12	-01	-16	-21	-24	-34
12. Grouping II												-02	05	06	07	26	-05	-24	-08	-03
13. Identification													-43	03	-14	-12	-20	10	-15	-25
14. Dependency														15	32	04	-06	07	30	-11
15. Complexity															08	18	-27	03	20	12
16. Need Achievement																28	-15	32	35	10
17. Test Anxiety																	-10	28	10	29
18. Study Habits																		-20	12	23
19. Socioeconomic Status																			09	15
20. Self Concept																				30
21. Grade Importance																				

*Decimal points omitted. For coefficients ≥.31, p =.05; for coefficients ≥.40, p =.01 (two tailed).

TABLE 8

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR SEGREGATED NEGRO FEMALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	71	58	29	30	46	-01	10	28	02	-08	20	-29	26	-04	39	-16	27	-04	27	-02
2. Uses		66	26	44	55	02	19	28	-04	-10	27	-34	22	-13	55	14	15	-09	40	-05
3. First Letter			43	56	71	-08	03	42	10	-01	35	-38	24	-10	54	22	-01	-05	42	01
4. Missing Facts				34	66	05	25	27	21	-15	14	-37	27	-06	31	19	19	02	34	-02
5. Planning					61	-02	24	37	32	04	21	-34	26	-02	51	24	02	-02	37	-09
6. Best Answer						05	28	37	15	02	38	-19	06	07	47	21	-07	-20	27	-06
7. Individuation							03	-35	18	-30	-03	-13	-26	-01	13	00	02	31	07	01
8. Power								06	00	31	10	07	-18	01	06	-04	11	-09	00	-02
9. Esteem									-02	06	08	-06	36	04	20	08	00	-16	19	20
10. Centrality										08	03	21	-02	06	02	05	-14	34	-05	-04
11. Grouping I											34	09	02	30	-18	-04	-14	-18	-13	-12
12. Grouping II												-21	12	09	19	20	-22	-40	11	-21
13. Identification													-36	06	-50	-24	-10	14	-27	02
14. Dependency														-04	24	09	09	-02	06	-02
15. Complexity															-12	20	-39	-17	-08	05
16. Need Achievement																17	16	00	39	10
17. Test Anxiety																	-23	-05	-09	16
18. Study Habits																		22	27	09
19. Socioeconomic Status																			05	07
20. Self Concept																				-04
21. Grade Importance																				

*Decimal points ommitted. For coefficients $\geq .29$, $p = .05$; for coefficients $\geq .37$, $p = .01$ (two tailed).

TABLE 9

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR DESEGREGATED NEGRO MALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	79	45	48	27	50	00	-10	10	-30	07	00	-14	41	09	31	-12	19	-15	43	00
2. Uses		48	48	18	39	-01	-07	16	-18	12	-03	-43	41	11	43	04	27	04	45	08
3. First Letter			40	26	38	-10	10	20	-22	28	06	-38	40	23	49	-12	56	14	40	24
4. Missing Facts				44	64	17	-19	22	-21	31	33	-46	64	24	26	-15	43	28	55	-21
5. Planning					59	29	-04	21	-15	09	38	-24	22	03	56	-10	17	-10	41	-10
6. Best Answer						-04	-10	-02	-01	25	18	-12	32	-09	43	04	18	-15	37	06
7. Individuation							-06	22	07	-16	32	14	-14	19	10	07	-19	-03	-11	-26
8. Power								36	-01	18	37	15	-03	04	04	02	-11	12	-17	20
9. Esteem									-47	-12	51	-12	28	23	23	04	36	19	20	32
10. Centrality										17	06	-01	-07	-24	-06	00	-53	10	-05	06
11. Grouping I											19	00	37	35	-06	03	16	32	14	-01
12. Grouping II												-16	23	08	16	14	06	02	24	27
13. Identification													-41	13	-06	40	-21	-25	-64	-14
14. Dependency														13	13	-21	44	21	54	10
15. Complexity															-01	10	34	02	-11	-27
16. Need Achievement																10	27	-07	37	17
17. Test Anxiety																	-27	-09	-36	00
18. Study Habits																		-04	45	27
19. Socioeconomic Status																			-03	-16
20. Self Concept																				43
21. Grade Importance																				

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*Decimal points omitted. For coefficients $\geq .35$, $p = .05$; for coefficients $\geq .45$, $p = .01$ (two tailed).

TABLE 10

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR DESEGREGATED NEGRO FEMALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	70	27	33	-09	01	-21	00	07	-22	07	-10	21	-07	30	37	09	-06	11	12	-09
2. Uses		25	24	-16	-09	-11	18	45	-21	16	-04	-02	13	34	17	-12	12	16	28	-35
3. First Letter			21	10	26	-05	22	24	06	28	-22	25	-16	-15	-04	-13	06	22	38	10
4. Missing Facts				36	36	-08	16	26	-48	45	33	-21	18	43	36	-53	47	27	53	07
5. Planning					30	05	33	28	06	35	21	01	20	07	23	-30	49	15	29	38
6. Best Answer						28	41	39	-14	15	20	-04	15	-10	30	-28	26	00	15	25
7. Individuation							36	25	-07	-09	-13	21	-13	-13	-39	-11	-15	-04	17	09
8. Power								66	-18	55	-17	-30	27	-05	-12	-22	27	21	37	13
9. Esteem									-29	58	07	-23	27	07	12	-49	38	28	41	-07
10. Centrality										-30	-30	30	-11	-21	-13	32	-19	-46	-15	-08
11. Grouping I											08	-26	29	14	21	-22	46	36	39	-02
12. Grouping II												11	-09	16	34	-40	05	26	11	14
13. Identification													-51	-22	-13	31	-47	-01	-10	23
14. Dependency														56	14	-02	74	-16	17	-22
15. Complexity															12	-09	42	03	33	-31
16. Need Achievement																-02	20	-14	-01	17
17. Test Anxiety																	-37	-33	-42	-01
18. Study Habits																		02	27	-04
19. Socioeconomic Status																			19	-18
20. Self Concept																				14
21. Grade Importance																				

*Decimal points omitted. For coefficients ≥ .39, p = .05; for coefficients ≥ .49, p = .01 (two tailed).

TABLE 11

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR WHITE MALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	69	44	26	08	28	-05	06	-10	-05	05	-06	02	08	-06	14	-05	13	14	18	08
2. Uses		41	17	10	21	-04	02	-09	-03	03	-04	03	-01	-09	07	-02	10	15	13	04
3. First Letter			34	12	31	05	09	00	-02	03	-05	-03	02	-05	13	-13	12	19	17	09
4. Missing Facts				20	49	11	-02	04	00	07	-04	-13	23	01	30	-26	28	23	34	09
5. Planning					22	06	03	04	-08	02	-02	-06	14	-07	12	-07	19	24	20	12
6. Best Answer						17	08	-03	-01	-05	-06	03	03	12	08	06	05	10	00	10
7. Individuation							08	07	-04	-11	-05	02	03	09	15	-02	04	07	06	00
8. Power								19	-12	-13	-18	14	-07	00	00	-04	-14	04	-02	-14
9. Esteem									-10	-07	09	-08	23	05	08	-01	07	01	-08	-03
10. Centrality										15	04	-09	01	03	00	06	-09	-07	-05	-08
11. Grouping I											51	-23	10	-06	00	02	10	02	10	08
12. Grouping II												-34	24	04	-04	12	13	-01	04	20
13. Identification													-48	00	-07	03	-21	03	-10	-18
14. Dependency														15	19	-08	17	17	14	15
15. Complexity															00	-02	11	-03	-02	-03
16. Need Achievement																-05	09	13	16	21
17. Test Anxiety																	-34	-08	-25	04
18. Study Habits																		10	46	31
19. Socioeconomic Status																			23	20
20. Self Concept																				42
21. Grade Importance																				

*Decimal points omitted. For coefficients ≥ .11, p = .05; for coefficients ≥ .15, p = .01 (two tailed).

TABLE 12

COEFFICIENTS OF CORRELATION* BETWEEN THE VARIABLES FOR WHITE FEMALES

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ideas	68	46	24	14	35	04	00	-06	09	-08	-01	00	07	04	15	-02	10	20	23	12
2. Uses		34	14	00	28	08	02	-04	08	-07	-04	05	04	07	09	04	11	18	16	17
3. First Letter			32	28	40	04	-03	03	03	-01	02	-10	27	13	17	-21	18	21	37	-04
4. Missing Facts				50	46	02	-07	00	-11	09	-03	-12	16	16	18	-32	25	26	52	-01
5. Planning					37	02	-11	02	-10	-01	-07	-12	13	19	25	-16	17	29	41	-03
6. Best Answer						05	02	00	-08	05	-01	-10	18	10	23	-23	23	17	49	-13
7. Individuation							14	11	10	06	-02	11	-04	03	10	-03	-01	03	06	11
8. Power								-02	04	09	-04	28	-10	-04	-10	00	-11	-10	-05	-02
9. Esteem									-21	05	09	-02	12	02	06	-13	13	-05	12	01
10. Centrality										-13	-04	01	-05	-03	04	15	-18	-01	-10	-01
11. Grouping I											30	-08	20	-05	00	-20	11	-09	09	-04
12. Grouping II												-36	27	-01	-10	-06	12	-11	03	06
13. Identification													-47	-02	-13	-02	-26	-04	-18	-13
14. Dependency														11	03	-10	23	01	18	-02
15. Complexity															06	-02	03	06	09	03
16. Need Achievement																-05	10	10	19	10
17. Test Anxiety																	-34	-01	-43	13
18. Study Habits																		11	53	31
19. Socioeconomic Status																			24	12
20. Self Concept																				18
21. Grade Importance																				

*Decimal points omitted. For coefficients ≥ .11, p = .05; for coefficients ≥ .15, p = .01 (two tailed).

significance in the different samples of students.

The relationships among the non-cognitive variables present a less clear picture. Their most striking feature is the number of rather low coefficients of correlation.

Perhaps, among the more interesting data in Tables 7 through 12 are the correlation coefficients between the cognitive and non-cognitive variables. If the abilities represented by the cognitive variables are taken as a sample of kinds of intellectual activities that take place in school, then we should consider (1) whether the non-cognitive constructs described in Chapter II are related to these variables and (2) whether the relationships vary by student type.

As a group, the Self-Social Symbols Tasks do not appear to be related to cognitive performance. Only two of these variables, Identification and Dependency show significant relationships to the six congitive tests and these relationships occur only in some of the samples. Identification is significantly related to five of the intellectual measures for segregated Negro females and to four of these measures for desegregated Negro males. Dependency is significantly related to four cognitive variables for desegregated Negro males and for white females.

Of all the non-cognitive variables, Need Achievement appears to be significantly and most consistently related to cognitive abilities. With the exception of desegregated Negro females, at least four of the six coefficients of correlation involving *Need Achievement* and the cognitive variables are significant in each sample. These results are even more noteworthy when the low reliability estimates for *Need Achievement* are remembered. The motivational tendencies elicited by *Need Achievement* would appear to be important in carrying out the kinds of intellectual tasks tapped by the cognitive tests in our study. Interestingly, *Test Anxiety* tends not to be significantly correlated to these cognitive tasks.

Of the remaining non-cognitive variables, only *Self Concept* seems to be related to cognitive performance in different samples. *Study Habits* and *Socioeconomic Status* tend to show significant relationships to *Ideas*, *Uses*, *First Letter*, *Missing Facts*, *Planning*, and *Best Answer* only in the samples of white males and females, while *Grade Importance*, if related to cognitive abilities, is so only among white females. *Self Concept*, or more correctly *Self Concept of Ability*, is significantly related to the various cognitive tests in samples of segregated Negro females, desegregated Negro males, white males, and white females. Just why this construct is unrelated to intellectual test performance in the other two groups is not clear. Our sample of desegregated Negro females may be an unusual or atypical group; it is, as we have noted, the smallest in number. But what is operating in the sample of segregated Negro males is murky. Not a single coefficient between *Self Concept* and the cognitive variables achieves significance in this group. Perhaps, it is the relatively low reliability of Self Concept for segregated Negro males that is obscuring the relationships.

In sum, we have presented data in this chapter which establish baselines for a longitudinal study of segregated and desegregated Negro and white students. We have also dealt with the question of the appropriateness of the instruments selected for such a longitudinal study. As part of the latter, we have looked at and speculated on some of the interrelationships of the variables.

Taken in toto, the data in Tables 1 through 12 suggest that several of the variables are operating differently among the various samples of high school students employed in this study. We consider in the next chapter which variables significantly differentiate male and female segregated Negroes, desegregated Negroes, and whites.

CHAPTER IV

DIFFERENCES AMONG SEGREGATED NEGROES, DESEGREGATED NEGROES, AND WHITES

The major purpose of this study was to determine the differences among ninth-grade students identified as segregated Negroes, desegregated Negroes, and whites. In this chapter, we attempt to look at how these three types of students performed on a number of variables and to explain the presence or absence of differences among them. We also discuss some of the implications of our findings. Before looking at the data, we need to add a few more cautions to those listed in Chapter III.

Although the analyses in this chapter consider a single variable at a time, we suspect that several variables are probably operating simultaneously. For example, there are differences among student types in social class that we do not specifically look at until one of the last sections of this chapter. These social class differences are important in themselves but in all likelihood are compounding the analysis of some variables. There are probably other variables which are similarly moderating the data. Just what these variables are and how they might be operating cannot be determined. Thus, we caution against overinterpreting the analyses that follow.

Also, since the time of our original data collection, many rapidly occurring events have taken place. The term "Negro" has in some quarters taken on a pejorative meaning and has been replaced by "black" or "Afro-American". Integration as a concept has been abandoned by some militant blacks and obviously was never accepted by racist whites. "Black pride," "black identity" and "black power" are not just words but signify changes that have taken place in our society. Whether these events and others like them have made the data of our study obsolescent is a moot question. We do not know how any generalizations from our study might be tempered. The point we want to stress is that the results in this chapter and the rest of the study represent operations and conditions which may no longer be relevant.

Analysis of variance was the statistical treatment applied to the data in this chapter. For each of the variables, a three by two analysis of variance was carried out - three student types and two sexes. All of the analyses were computerized, following an amended program by Cooley and Lohnes (1962) for disproportionate sample size. Because of the differential sample size, it was not feasible to make a posteriori comparisons between cell means, even if we had wanted to. We did, however, prior to computing the F ratios compute _t_ values for differences between all pairs of means. Although we do not report these _t_'s, the discussion of the differences in this chapter reflects the significant findings.

In using the analysis of variance, it should be clear that we are not manipulating any variables. Rather we are using this technique to determine the relationships between performance on a number of variables and the type of student. To get a more precise picture of these relationships, we have further classified the segregated Negroes, the desegregated Negroes, and whites by sex. To ease the comparisons of these students, the means reported in separate tables in Chapter III are brought together in each of the analyses that follow.

Differences in Ideational Fluency

The analyses of variance for the two ideational fluency tests are summarized in Tables 13 and 14. The only significant F ratios in these tables are for Ideas. There are significant differences among the three types of students, as well as sex differences. The white students give the most ideas and are followed by the desegregated Negroes and segregated Negroes; the girls score higher than the boys.

But the results in Tables 13 and 14 are inconsistent about the divergent production of the students. Just why there are no significant differences on Uses is not clear. It may be that Uses requires abilities that are less culture bound. Bernstein (1961) has postulated that an important difference in the socialization process of middle and lower-class children is the development of elaborated and restricted linguistic codes. Elaborated codes are more used by middle-class parents and reflect a higher order of thinking than the restricted codes. It may be that when the three types of students are asked to

TABLE 13

ANALYSIS OF VARIANCE FOR IDEAS

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	1581.14	2	790.57	7.86*
Sex	1023.57	1	1023.57	10.18*
Interaction	340.50	2	170.25	1.69
Error	76742.55	763	100.58	
Total	79687.76	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	26.37	31.38	29.05
Desegregated Negro	27.23	32.27	29.53
White	32.04	33.75	32.89
Total	31.05	33.36	32.20

*$p < .001$

TABLE 14

ANALYSIS OF VARIANCE FOR USES

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	59.08	2	29.54	.48
Sex	88.05	1	88.05	1.42
Interaction	238.23	2	119.12	1.92
Error	47371.66	763	62.09	
Total	47757.02	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	20.93	22.62	21.83
Desegregated Negro	19.77	24.04	21.72
White	20.98	21.18	21.08
Total	20.88	21.55	21.21

write as many uses as possible for objects familiar to all, this sort of task can be performed equally well, irrespective of an individual's linguistic codes. However, when asked to give ideas about a man going up a ladder and a man driving a truck down the street, elaborated linguistic codes are necessary and are bringing about the differences reported in Table 13. But all this is sheer speculation.

Differences in Word Fluency

The test for word fluency, First Letter, is unique in that it is the only variable on which the performance of the segregated Negroes was the most positive. The data in Table 15 show that there are extremely significant differences between the segregated Negroes and the other two groups. The girls are significantly more fluent than the boys.

The sex differences, of course, are in line with what has usually been reported for word fluency measures. But we are at a loss to explain why the segregated Negroes are able to write so many more words than the other students. McNemar (1955) in a study of good and poor reasoners found that the latter wrote significantly faster than the former and noted,

> It is hard to believe that the High group cannot write as fast as the Low; it seems more likely that the difference found reflects a conative difference — lesser willingness to sacrifice quality for the sake of quantity. (McNemar, 1955).

TABLE 15

ANALYSIS OF VARIANCE FOR FIRST LETTER

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	10246.15	2	5123.07	23.16*
Sex	5567.39	1	5567.39	25.17*
Interaction	230.64	2	115.32	.52
Error	168785.03	763	221.21	
Total	184829.21	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	59.00	67.02	63.28
Desegregated Negro	46.90	56.88	51.46
White	49.68	54.05	51.86
Total	50.45	55.83	53.13

*$p < .001$

Whether the segregated Negroes write faster or whether they are simply more fluent with words cannot be determined from our data.

Differences in Problem Recognition

The statistics for problem recognition in Tables 16 and 17 are quite consistent. Both analyses of variance reveal that the differences for student type on Missing Facts and Planning are among the most significant of any of the variables in this study. On each test, the girls are significantly higher than the boys. There are interactions on both tests as well. On Missing Facts, the interaction results from the segregated Negro males having a larger mean than the segregated Negro females; on Planning, the desegregated Negro females exceed the white males.

Taken together, the data for Missing Facts and Planning present a very strong case for differences in problem recognition ability, as measured, among the three types of students. It is particularly noteworthy that the segregated Negro students demonstrate the poorest performance in each case, while the desegregated Negroes are in the middle. The findings of this study are consistent with the Coleman Report (Coleman, 1966). What is not clear, however, is whether the more able Negro students choose to attend the desegregated schools, or whether attendance in a desegregated school results in greater sensitivity to problems.

TABLE 16

ANALYSIS CF VARIANCE FCR MISSING FACTS

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	5970.68	2	2985.34	85.92*
Sex	92.14	1	92.14	2.65***
Interaction	219.60	2	109.80	3.16**
Error	26511.10	763	34.75	
Total	32793.52	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	8.95	7.66	8.26
Desegregated Negro	10.10	13.62	11.70
White	16.09	16.89	16.49
Total	14.85	15.54	15.19

$^{*}p < .001$
$^{**}p < .05$
$^{***}p < .10$

TABLE 17

ANALYSIS OF VARIANCE FOR PLANNING

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	1908.07	2	954.03	64.27*
Sex	887.27	1	887.27	59.78*
Interaction	94.76	2	47.38	3.19**
Error	11325.57	763	14.84	
Total	14215.67	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	8.02	9.60	8.86
Desegregated Negro	10.03	13.92	11.81
White	12.65	14.79	13.72
Total	11.95	14.10	13.02

$^{*}p < .001$
$^{**}p < .05$

Differences in Judgment

Judgment has been found to be among the most important components of problem-solving ability (Tate *et al*, 1959). The contribution of judgment to problem solving is independent of IQ and reading achievement (Harootunian and Tate, 1960). In Table 18, *Best Answer*, the test used in this study to elicit judgment, reveals significant differences among segregated Negro, desegregated Negro, and white students. These differences are complicated somewhat by the significant interaction effect. The segregated Negro males have a larger mean score than the desegregated Negro males.

We can only hypothesize about what may be operating to bring about an interaction for Best Answer. It may be, as will be discussed below, that *Best Answer* reflects the socioeconomic differences between the two male Negro samples, the desegregated Negro males having the lower status. Why these differences would show up on *Best Answer* and not on the other tests is difficult to say.

When the data for *Best Answer* are considered jointly with those for *Missing Facts* and *Planning*, a rather clear picture is formed. On these variables most crucial to problem solving, the white students rank first; the desegregated Negroes, second; and the segregated Negroes, last. It should be noted incidentally that on the cognitive variables relatively unimportant in problem solving the

TABLE 18

ANALYSIS OF VARIANCE FOR BEST ANSWER

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	14914.33	2	7457.17	24.75*
Sex	669.24	1	669.24	2.22
Interaction	2943.31	2	1471.65	4.88**
Error	229889.41	763	301.30	
Total	248416.29	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	42.00	33.32	37.36
Desegregated Negro	40.71	45.85	43.05
White	48.84	52.03	50.43
Total	47.45	49.32	48.39

$^*p < .001$
$^{**}p < .01$

picture is one of sheer inconsistency. The results on the judgment and problem recognition variables present an optimistic view for the enhancement of the cognitive abilities of the segregated Negro students. The abilities elicited by _Best Answer_, _Missing Facts_ and _Planning_ would seem to be most amenable to instruction.

Differences in Self-Social Symbols Tasks

The results of the analyses of variance for the nine scales of the _Self-Social Symbols Tasks_ are presented in Tables 19 through 27. No significant differences of any kind were found for _Individuation_ (Table 19), _Esteem_ (Table 21), _Centrality_ (Table 22), _Grouping I_ (Table 23), and _Complexity_ (Table 27).

Of all the non-significant differences, the most interesting are the data for _Esteem_. Previous studies with this scale have found Negro children having lower self-esteem (Long, _et al_, 1968b). The findings of this study are, however, in agreement with Coleman (1966) who notes:

> It is puzzling to some analysts that the Negro children report levels of self-esteem as high as white when there is so much of their social environment to reduce the self-esteem of a Negro, and those analysts conjecture that these responses may not mean what their face value suggests. (p. 288).

We return to the question raised by Coleman in our discussion of the self-concept of school ability below.

In Table 20, the data for _Power_ indicate that there are significant

TABLE 19

ANALYSIS OF VARIANCE FOR INDIVIDUATION

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	15.16	2	7.58	1.13
Sex	8.17	1	8.17	1.22
Interaction	16.82	2	8.41	1.25
Error	5133.33	763	6.73	
Total	5173.49	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	8.00	7.36	7.66
Desegregated Negro	7.00	7.19	7.09
White	7.10	7.41	7.25
Total	7.18	7.39	7.29

TABLE 20

ANALYSIS OF VARIANCE FOR POWER

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	135.90	2	67.95	6.02*
Sex	8.45	1	8.45	.75
Interaction	4.42	2	2.21	.20
Error	8610.61	763	11.29	
Total	8759.38	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	15.90	15.30	15.58
Desegregated Negro	17.45	17.69	17.56
White	16.45	16.29	16.37
Total	16.48	16.27	16.37

*$p < .01$

TABLE 21

ANALYSIS OF VARIANCE FOR ESTEEM

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	107.89	2	53.95	1.01
Sex	26.73	1	26.73	.50
Interaction	144.27	2	72.14	1.35
Error	40842.93	763	53.53	
Total	41121.82	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	23.90	22.98	23.41
Desegregated Negro	20.58	23.73	22.02
White	22.13	22.41	22.27
Total	22.20	22.57	22.38

TABLE 22

ANALYSIS OF VARIANCE FOR CENTRALITY

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	45.81	2	22.90	.71
Sex	21.57	1	21.57	.67
Interaction	40.01	2	20.01	.62
Error	24465.40	763	32.06	
Total	24572.80	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	2.29	2.79	2.56
Desegregated Negro	2.84	3.00	2.91
White	2.71	2.77	2.74
Total	2.68	2.78	2.73

TABLE 23

ANALYSIS OF VARIANCE FOR GROUPING I

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	147.01	2	73.50	1.70
Sex	.05	1	.05	.00
Interaction	61.18	2	30.59	.71
Error	32927.81	763	43.16	
Total	33136.05	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	17.29	16.11	16.66
Desegregated Negro	15.22	16.69	15.89
White	15.32	15.32	15.32
Total	15.52	15.51	15.52

differences among the three groups of students. What is most noteworthy is that students who perceive themselves as having the most power are the desegregated Negroes, while those least powerful are the segregated Negroes. Coleman (1966) reports that of all variables in his study the most important, as far as academic success of Negro students was concerned, were the attitudinal variables, particularly "fate control". In other words, how a Negro student viewed his control over his environment was related to how well he performed in school. The results on Power in Table 20 are congruent with Coleman's findings. Our data do not tell us if more "powerful" Negro ninth-graders choose to attend desegregated schools or if desegregated schooling helps these students see themselves as more powerful individuals. Whatever the reason, the differences for Power are important.

The other clear-cut differences on the Self-Social Symbols Tasks occur for Grouping II in Table 24. It will be remembered that Grouping II is a measure of group identification and elicits parental inclusiveness by the subjects. The means in Table 24 show that the segregated Negroes tend most often to include their parents in the group containing the self; desegregated Negroes are next; and whites, last. The means for Grouping I incidentally follow these same trends but are not significant.

Since studies that have used Grouping I and Grouping II have been

TABLE 24

ANALYSIS OF VARIANCE FOR GROUPING II

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	236.58	2	118.29	4.66*
Sex	.02	1	.02	.00
Interaction	6.71	2	3.36	.13
Error	19353.48	763	25.36	
Total	19596.79	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	3.12	3.06	3.09
Desegregated Negro	2.97	2.77	2.88
White	2.57	2.58	2.57
Total	2.66	2.65	2.66

*$p < .01$

relatively few in number, the meaning of our data is rather obscure. It may be that the scores for *Grouping II* reflect need for parental approval or attention. As Katz (1968) points out, it is likely that Negro parents make demands on their children that are higher even than those imposed by white middle-class parents. These demands are not congruent with the amount of attention these parents are able to afford toward the academic efforts of their children. If this is so, then the discrepancy between the parental demands and attention might show up on tasks such as *Grouping II*. The fact that the desegregated Negro children were in the middle on *Grouping II* may reflect the necessary parental interest and cooperation they get in order to attend the desegregated schools. In other words, attendance at the desegregated school usually requires the parents of Negroes to make formal applications and so on. The matter is worth further investigation in any event.

Identification and *Dependency* are the two measures on the *Self-Social Symbols Tasks* that yield significant interactions as well as significant main effects. For *Identification,* the *lower* score means closer placement (greater identification) of the self to the salient other. Girls identify significantly more than boys with father, mother, teacher, and friend. However, segregated Negro boys show closer identification than segregated Negro girls; this reversal of position in this group results in the significant F for interaction in Table 25.

TABLE 25

ANALYSIS OF VARIANCE FOR IDENTIFICATION

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	269.60	2	134.80	1.27
Sex	740.52	1	740.52	6.96*
Interaction	915.32	2	475.66	4.30**
Error	81164.95	763	106.38	
Total	83090.39	768		

Cell Means

Student type	Sex Male	 Female	Total
Segregated Negro	22.12	25.98	24.18
Desegregated Negro	22.00	20.81	21.46
White	24.88	21.98	23.44
Total	24.36	22.39	23.38

*$p < .01$
**$p < .05$

TABLE 26

ANALYSIS OF VARIANCE FOR DEPENDENCY

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	475.07	2	237.53	5.15*
Sex	14.08	1	14.08	.31
Interaction	366.50	2	183.25	3.97**
Error	35192.44	763	46.12	
Total	36048.09	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	3.83	2.72	3.24
Desegregated Negro	3.58	4.04	3.79
White	3.90	4.13	4.02
Total	3.87	3.95	3.91

$^{*}p < .01$
$^{**}p < .05$

TABLE 27

ANALYSIS OF VARIANCE FOR COMPLEXITY

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	73.29	2	36.65	2.16
Sex	.86	1	.86	.05
Interaction	46.67	2	23.34	1.38
Error	12929.59	763	16.95	
Total	13050.41	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	22.59	21.34	21.92
Desegregated Negro	22.94	22.77	22.86
White	22.75	23.04	22.89
Total	22.75	22.81	22.78

The statistics for Dependency in Table 26 show that there are significant differences for student type. Whites have the largest mean scores on Dependency, and segregated Negroes have the smallest. The significant interaction is brought about by the fact that the segregated Negro males exceed the desegregated Negro males and the desegregated Negro females do likewise to the white males. In all likelihood, these differences and interactions reflect social class variations. Such an explanation would be consistent with previous findings (Long et al, 1968b).

Ignoring the interactions for the moment, it is still difficult to see why the differences in Dependency occur for student type. Henderson's (1967) interpretation of Dependency as a measure of socialization (versus isolation) makes more sense to us. Certainly, it is reasonable to expect that students in attendance in racially isolated schools would tend to perceive themselves as more isolated. The data in Table 26 suggest that is what seems to take place.

In sum, the results from the Self-Social Symbols Tasks strongly suggest that segregated Negro, desegregated Negro, and white students differ in their self-other relationships. Generally, the desegregated Negro and white students are more nearly alike and tend to have the more positive self perceptions.

Differences in Achievement Motivation

In Chapter III, we reported that Need Achievement was the non-cognitive variable that was most consistently related to performance on the cognitive tests across the different groups of students. The data in Table 28 reveal that Need Achievement is equally important in differentiating whites, desegregated Negroes, and segregated Negroes, and boys and girls. For student type, the scores decrease in the order of whites, desegregated Negroes, and segregated Negroes. For sex, girls are higher than boys. These differences only in part reflect the social class differences among the students. The data in Table 28 do confirm the findings of Rosen (1959) and Mingione (1965).

The fact that the desegregated Negro subjects demonstrate scores on Need Achievement midway between the segregated Negroes and whites suggests that when "freedom of choice" plans for desegregation are in operation, Negro students with the higher intellectual abilities and the more positive motivational tendencies are the ones who desegregate, while the less able and less positive Negro students become even more segregated. This is clearly a case of "the rich getting richer".

The theoretical conceptualizations of Atkinson (Atkinson and Feather, 1966) are particularly relevant for the data in Table 28. Atkinson has proposed a theory which implies that "both positive interest in achievement and anxiety about failure should be more strongly aroused in a homogeneously ability-grouped class." (Atkinson and Feather, 1966). Empirical evidence has tended to confirm that

TABLE 28

ANALYSIS OF VARIANCE FOR NEED ACHIEVEMENT

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	441.47	2	220.74	6.13*
Sex	227.58	1	227.58	6.32**
Interaction	158.87	2	79.43	2.21
Error	27456.81	763	35.99	
Total	28284.73	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	6.78	10.00	8.50
Desegregated Negro	9.65	8.85	9.28
White	10.21	11.19	10.70
Total	9.80	10.89	10.34

$^{*}p < .01$
$^{**}p < .05$

students who are relatively high in need achievement show greater interest and more favorable school performance when they are ability grouped than when they are not.

What makes the present study particularly unique with respect to Atkinson's theory is the fact that the Negro students (or their parents) had a choice of schools. If we assume that for certain Negro students the desegregated schools represented ones in which the probabilities of success or failure were more nearly equal (which the data on the cognitive variables suggest is a reasonable assumption), then it would follow from Atkinson's formulations that the Negro students with higher need for achievement would choose such schools.

The predictions for the Negro students with low need achievement are somewhat more complicated. The most able of the low need achievement students would probably choose the segregated school, since the probability of success for them would be much greater in such a school. The choice of the low ability, low need achievement, students could theoretically involve either school. The data in Table 28 sustain Atkinson's theory, particularly for the males. It should be pointed out that need achievement measures have usually been inconsistent with girls. The results are even more striking when the data that follow below in Table 29 on Test Anxiety are considered. We mentioned in Chapter II that the usual way of measuring the avoidance tendencies in an achievement situation has involved a test anxiety questionnaire.

Differences in Test Anxiety

Even though the differences for student type are of borderline significance, the results for Test Anxiety are quite consistent with other studies. Katz (1968) cites recent evidence to support the contention that Negro students in segregated schools suffer "in ordinately high levels of anxiety," while Negro children in racially mixed schools score midway between the segregated Negroes and whites. The data in Table 29 add considerably to this evidence. Most noteworthy is the rather bleak picture obtained for the segregated Negro males. When the data in Tables 28 and 29 are considered jointly, the segregated Negro boys fall victim to the highest anxiety and lowest need for achievement of any of the male samples. Much has been written about the role of the Negro male in our society. The results from our study suggest that when this role is tempered in racially isolated schools, crucial motivational variables are mirrored.

Differences in Study Habits and Attitudes

Earlier in Chapter II we noted that the reason we wanted to include a measure like the Survey of Study Habits and Attitudes was our interest in confirming or disconfirming results which indicated that Negro and white students did not differ in their attitudes toward school (Coleman, 1966). As a matter of fact, Coleman (1966) reports that, with the exception of Oriental-Americans, Negro students reported more studying outside of school than any other group. The data in

TABLE 29

ANALYSIS OF VARIANCE FOR TEST ANXIETY

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	6424.32	2	3212.16	2.86**
Sex	53308.36	1	53308.36	47.42*
Interaction	2078.57	2	1039.28	.92
Error	857699.17	763	1124.11	
Total	919510.42	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	167.29	173.98	170.86
Desegregated Negro	159.97	175.92	167.25
White	153.32	171.37	162.32
Total	155.35	172.00	163.66

*$p < .001$
**$.10 > p > .05$

Table 30 for the Survey of Study Habits and Attitudes are in agreement with such findings.

One possible interpretation of the data in Table 30 has been suggested by Katz (1968). He believes that results such as these reflect "a large element of defensiveness or wishful thinking, or both, in the Negro responses." In other words, the Negro students, hold achievement values which they do not know how to operationalize. Katz points out that performing the instrumental behaviors for goal attainment is a much more difficult task than acquiring the verbal attitudes about the goals, "especially when there are no models of competency to imitate, and when achievement strivings are not socially recognized and reinforced." (Katz,1968). We simply note that the data from our study are in complete agreement with such an explanation.

Differences in Questionnaire on Self

The results on the various parts of the Questionnaire on Self are presented in Tables 31 to 38. As a group, the statistics for the eight variables are rather impressive. All but one of the analyses of variance reveal significant differences at the 5 per cent level or better. The exception, Free Occupational Choice, in Table 38 shows differences that are significant at about the 6 per cent level, but, as will be explained later, the lack of highly significant differences on Free Occupational Choice results in a most interesting finding.

TABLE 30

ANALYSIS OF VARIANCE FOR SURVEY OF STUDY HABITS AND ATTITUDES

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	308.99	2	154.49	1.24
Sex	1108.58	1	1108.58	8.86*
Interaction	63.79	2	31.89	.25
Error	95469.84	763	125.12	
Total	96951.20	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	29.73	27.32	28.44
Desegregated Negro	27.16	26.27	26.75
White	27.73	25.15	26.44
Total	27.89	25.49	26.69

*$p < .01$

We have noted several times throughout this report the possible effect of social class differences on the variables. In Table 31, the scores for Socioeconomic Status show that there are highly significant differences for student type. These statistics are in agreement with what has generally been found; the segregated Negroes have the lowest status, followed by the desegregated Negroes and whites. But the significant F ratio for interaction indicates that the differences among students are not clear cut. The means in Table 31 show that the segregated Negro girls list occupations for their fathers that are of higher status than of any other group. Also, the segregated Negro males' fathers have higher status occupations than those of the desegregated Negro males. Why the higher status Negro girls and lower status Negro boys attend the desegregated schools, while their counterparts go to the segregated school is not clear. The decision to attend a particular school may mirror only in part social class, and other personality factors might be relevant. We have already noted that Need Achievement may be one such factor, and there are probably others as well.

In Table 32, the differences on Self Concept among the three groups of student is significant at the 5 per cent level. These results are at variance with the data reported earlier in this study for Esteem and the findings of other studies (Coleman, 1966) which report no differences between whites and Negroes. Actually, Coleman (1966)

TABLE 31

ANALYSIS OF VARIANCE FOR SOCIOECONOMIC STATUS

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	24296.96	2	12148.48	27.31*
Sex	99.79	1	99.79	.22
Interaction	6177.48	2	3088.74	6.94*
Error	339368.40	763	444.78	
Total	369942.63	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	21.02	16.13	18.41
Desegregated Negro	18.68	38.85	27.88
White	35.57	35.53	35.55
Total	32.66	33.38	33.02

*$p < .001$

TABLE 32

ANALYSIS OF VARIANCE FOR SELF CONCEPT

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	171.86	2	85.93	3.05*
Sex	7.51	1	7.51	.27
Interaction	153.89	2	76.94	2.73**
Error	21522.74	763	28.21	
Total	21856.00	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	24.37	25.13	24.77
Desegregated Negro	24.10	27.31	25.56
White	26.28	26.14	26.21
Total	25.90	26.10	26.00

$^{*}p < .05$
$^{**}.10 > p > .05$

reports that the self-concept of ability declined for Negroes as the proportion of whites in a school increased. Our data not only reveal significant differences, they suggest that attendance in a desegregated school does not appear to damage the self-concept of Negro students. Of all of the groups, the desegregated Negro girls report the highest self-concept of academic ability, a perception which may not be too far out of line in light of the data on the cognitive variables. Again, on the basis of our study we cannot determine whether the higher self-concept followed desegregation or whether desegregation by these students reflects a positive self-concept. Our data on Self Concept are in agreement with those reported by Brookover (1967).

Grade Importance in Table 33 and Who Would You Want to be Like in Table 34 reveal no significant differences for student type; there are significant sex differences on both variables. Grades in school are more important to girls, but boys aspire to be like higher status individuals. Neither of these results is unexpected in light of previous research findings.

Tables 35 and 36 show the statistics for Concerned People and Important People. On both variables, the results are about the same for student type. The white students list the highest status persons; the desegregated Negroes, the next; and the segregated Negroes, the lowest. In all likelihood, these choices mirror the social milieu in which these students find themselves. Important People in addition

TABLE 33

ANALYSIS OF VARIANCE FOR GRADE IMPORTANCE

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	73.68	2	36.84	2.24
Sex	152.84	1	152.84	9.29*
Interaction	25.75	2	12.87	.78
Error	12557.74	763	16.46	
Total	12810.01	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	20.51	22.28	21.45
Desegregated Negro	21.45	21.54	21.49
White	20.26	21.10	20.68
Total	20.38	21.27	20.83

$^*p < .01$

TABLE 34

ANALYSIS OF VARIANCE FOR "WHO WOULD YOU WANT TO BE LIKE"

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	710.84	2	355.42	1.01
Sex	4535.04	1	4535.04	12.86*
Interaction	560.66	2	280.33	.79
Error	269170.99	763	352.78	
Total	274977.53	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	44.17	42.96	43.52
Desegregated Negro	42.94	34.88	39.26
White	45.26	40.10	42.69
Total	44.95	40.10	42.53

*$p < .001$

TABLE 35

ANALYSIS OF VARIANCE FOR CONCERNED PEOPLE

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	17195.73	2	8597.87	16.13*
Sex	1088.13	1	1088.13	2.04
Interaction	6.62	2	3.31	.01
Error	406762.32	763	533.11	
Total	425052.80	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	28.61	24.21	26.26
Desegregated Negro	38.35	38.19	38.28
White	42.19	40.14	41.17
Total	40.44	38.06	39.25

$^*p < .001$

TABLE 36

ANALYSIS OF VARIANCE FOR IMPORTANT PEOPLE

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	12009.94	2	6004.97	12.46*
Sex	2136.56	1	2136.56	4.43**
Interaction	129.58	2	64.79	.13
Error	367637.09	763	481.83	
Total	381913.17	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	24.41	24.74	24.59
Desegregated Negro	34.77	30.73	32.93
White	38.70	35.09	36.90
Total	36.86	33.53	35.20

*$p < .001$
**$p < .05$

shows significant sex differences, with boys being higher than girls.

The last two variables derived from the Questionnaire on Self are Occupational Choice in Table 37 and Free Occupational Choice in Table 38. Occupational Choice shows that the students differ significantly in their responses when asked to list the jobs they are likely to enter. Interestingly, the desegregated Negro and white students are very similar in job status. It is the segregated Negroes who are largely responsible for the differences in student type. Girls list significantly higher status occupations than boys on Occupational Choice.

The differences for Free Occupational Choice, while following the same order as those on Occupational Choice, are not nearly as pronounced. It is interesting to note why the differences among students on Free Occupational Choice are less significant. A comparison of the cell means in Tables 37 and 38 reveals that when the desegregated Negroes and whites are asked to list their free or fantasized occupational choice, they choose occupations of about the same status as their realistic choice. The segregated Negroes, however, choose occupations significantly higher in status. The mean for the segregated Negro sample increases from 36.89 for Occupational Choice to 45.56 for Free Occupational Choice, a difference that is significant at the .001 level. Much more of this change is accounted for by the segregated Negro boys than the girls.

TABLE 37

ANALYSIS OF VARIANCE FOR OCCUPATIONAL CHOICE

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	12315.22	2	6157.61	12.37*
Sex	2080.66	1	2080.66	4.18**
Interaction	1436.54	2	718.27	1.44
Error	379813.75	763	497.79	
Total	395646.17	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	33.80	39.57	36.89
Desegregated Negro	46.03	57.38	51.21
White	47.94	50.42	49.18
Total	46.28	49.57	47.92

*$p < .001$
**$p < .05$

TABLE 38

ANALYSIS OF VARIANCE FOR FREE OCCUPATIONAL CHOICE

Analysis of Variance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Student type	3091.97	2	1545.98	2.74*
Sex	45.40	1	45.40	.08
Interaction	1610.62	2	805.31	1.43
Error	430465.35	763	564.17	
Total	435213.34	768		

Cell Means

Student type	Sex		Total
	Male	Female	
Segregated Negro	46.95	44.34	45.56
Desegregated Negro	50.25	60.08	54.74
White	50.87	49.91	50.39
Total	50.40	49.92	50.16

*$.10 > p > .05$

These data suggest that segregated Negroes, particularly boys, are aware of the limited avenues of employment open to them; the data in Tables 37 and 38 underscore the tremendous discrepancy between the reality and the aspirations of segregated Negroes.

Concluding Remarks

Taken in their entirety, the data from the various analyses in this chapter present a rather strong case that there are a number of important differences among segregated Negro, desegregated Negro, and white ninth-grade students. The differences between the Negro and the white students are, of course, nothing new; the differences between the segregated and desegregated students are something else. Generally speaking, the desegregated Negroes' abilities, attitudes, self-concepts, motivations, aspirations and the like are closer to the whites. Stated differently, desegregated Negroes tend to have greater intellectual ability, more positive self-concepts, higher achievement motivation, less anxiety and so on.

The design of our study was such that we could not determine whether desegregated schooling brought about the differences between the two types of Negro students or whether, if given the opportunity, more capable Negro students tend to go to racially mixed schools. In either case, we must conclude that the net effect of "freedom of choice" plans of desegregation is deleterious. On the one hand Negro students are placed in a position of asking for something that is rightfully theirs; on the other, the departure of the most able and strongest personalities tends to isolate even further those who do not desegregate. The empirical evidence from our study impresses us with the folly of any kind of partial or quasi solution to the problem of school desegregation.

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APPENDIX

SPECIMEN TESTS AND QUESTIONNAIRES IN ORDER OF ADMINISTRATION

Test of Insight

Questionnaire on Attitudes Toward Different Testing Situations

Best Answer

Planning

Survey of Study Habits and Attitudes*

Questionnaire on Self

Missing Facts

Ideas

Uses

First Letter

Self-Social Symbols Tasks

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*Not included. Published by The Psychological Corporation, 304 East 45th Street, New York, N. Y. 10017.

Please answer the questions on this page. We are asking for your name and class only because it may be necessary for research purposes. All of your answers to the questions will be kept strictly confidential. Neither the questions nor your answers will even be shown to or discussed with anyone in the school system.

THANK YOU FOR YOUR COOPERATION

Name: ________________________________

Date: ________________________________

Class: ________________________________

Age: ________________________________

Sex: ________________________________

Test of Insight

Directions: This is a test of your understanding of the reasons why people behave as they do. You will be given an example of the behavior of a number of people. Your task is to explain why each person behaves as he does. Read each description and then decide what you think would usually be the reason why someone does what this individual does. Decide what this person is like, what he wants to have or do, and what the results of his behavior are apt to be. If you think of more than one explanation give only the one you think is most likely. Write your answers in the spaces provided.

Name ______________________

1. Ted (Susan) never hesitates to express an opinion.

2. Dave (Doris) likes a good argument.

3. Jerry (Sally) never keeps anything to herself.

4. John (Jean) said, "Look what I've done."

Name ____________________

5. Sam (Betty) worries a lot about how she has done on examinations.

6. Peter (Paula) cares very little about what other people think of her.

7. Larry (Linda) gives lots of parties.

8. Ray (Peggy) works much harder than most people.

m

Name ________________________

9. Jack (Diane) enjoys being a member of a large family.

10. George (Jane) will usually volunteer for a difficult task.

QUESTIONNAIRE ON ATTITUDES TOWARD DIFFERENT TESTING SITUATIONS

Many people have been interested in how students feel about tests and about taking tests. This questionnaire is designed to let you tell us how you feel about them. We know that different people may have different ideas and attitudes about the same thing. We are particularly interested in how people differ in their feelings about tests.

The value of this questionnaire will in large part depend on how frank you are in stating your opinions, feelings, and attitudes. Needless to say, your answers to the questions will be kept strictly confidential; they will not be made known to any teacher or official in the school system.

For each question there is a line on the ends of which are statements of opposing feelings. The statements refer to the question. In the middle of the line you will find the word Midpoint. This reflects a feeling which is in-between the feelings described above. You are required to put an X on the point on the line which you think best indicates the strength of your feelings about that particular question.

The midpoint is only for your guidance. Do not hesitate to put a mark on any point on the line as long as that mark reflects (shows) the strength of your feeling.

By scholastic aptitude test we mean the tests that all of you have probably taken at some time while in High School. These are usually tests for which you cannot prepare and for which you cannot study. By teacher-made test we mean the tests given to you during the term which your teacher announces in advance. These are tests covering material you have had in class; tests for which you can prepare. If we just say "tests," we mean all kinds of tests.

READ EVERY QUESTION CAREFULLY

ANSWER EVERY QUESTION

PLEASE DO TELL US HOW YOU REALLY FEEL

Answer the questions quickly. Do not spend too much time on any one question. You will have time to complete the questionnaire. Raise your hand if you have any questions and we will try to answer them. ANSWER THE QUESTIONS AS YOU FEEL.

GO AHEAD TO THE FIRST PAGE

1. When under the pressure of a testing situation, I work better than I do when on my own time.

Work better under pressure	Midpoint	Work better on my own time

2. I enjoy taking a test.

Enjoy	Midpoint	Do not enjoy

3. Before taking a scholastic aptitude test, I feel fairly confident that I will do well.

Feel confident	Midpoint	Do not feel confident

4. Before taking a scholastic aptitude test, I am aware of an uneasy feeling.

Do not feel uneasy	Midpoint	Feel uneasy

5. While taking a scholastic aptitude test, I am aware that my heart is feating faster.

Heart beats faster	Midpoint	Heart does not beat faster

6. I find myself thinking about other things while taking a test.

Do not think about other things	Midpoint	Think about other things

7. Before taking a scholastic aptitude test, I tend to worry.

Tend to worry	Midpoint	Do not tend to worry

8. While taking a scholastic aptitude test, I do not perspire more than I do at other times in school.

Do not perspire	Midpoint	Perspire more than at other times

9. Before taking a teacher-made test, I feel fairly confident that I will do well.

Feel confident	Midpoint	Do not feel confident

GO ON TO THE NEXT PAGE

Remember to put a mark at any point on the line as long as that mark reflects the strength of your feeling.

10. I usually expect to do poorly on a teacher-made test.

Expect to do poorly	Midpoint	Do not expect to do poorly

11. After I have completed a scholastic aptitude test, I worry about how well I have done.

Worry about how well I have done	Midpoint	Do not worry about how well I have done

12. After taking a teacher-made test, I feel fairly confident that I have done well.

Do not feel confident	Midpoint	Feel confident

13. While I am taking a test, I find that I cannot seem to sit still.

Sit still easily	Midpoint	Cannot sit still

14. When the teacher announces that a test is going to be given, I become afraid that I am going to fail--that I will do poorly.

Become afraid that I will fail	Midpoint	Do not become afraid that I will fail

15. While taking a hard test, I find that I tend to forget facts that I thought I knew very well.

Do not forget facts	Midpoint	Forget facts

16. I am apt to aim for a perfect score on every test that I take.

Do not aim for a perfect score	Midpoint	Aim for a perfect score

17. Before taking a test, I worry about the possibility of failing it.

Do not worry about failing it	Midpoint	Worry about failing

18. While taking a scholastic aptitude test, I wonder about how well I am doing.

Do not wonder about how well I am doing	Midpoint	Wonder about how well I am doing

GO ON TO THE NEXT PAGE

Remember to put a mark at any point on the line as long as that point reflects the strength of your feeling.

19. Before taking a teacher-made test, I am aware of an uneasy feeling.

Do not feel uneasy	Midpoint	Feel uneasy

20. While taking a teacher-made test, I am aware that my heart is beating faster.

Heart beats faster	Midpoint	Heart does not beat faster

21. While taking a scholastic aptitude test, I worry about the possibility of failing it.

Worry about failing	Midpoint	Do not worry about failing

22. Before taking a teacher-made test, I tend to worry.

Tend to worry	Midpoint	Do not tend to worry

23. I expect myself to do better with difficult problems given as homework than with the same problems given on a course test.

Do better with the problems on a test	Midpoint	Do better with the problems given as homework

24. After I have completed a teacher-made test, I worry about how well I have done.

Worry about how well I have done	Midpoint	Do not worry

25. Before I begin to answer the questions on a teacher-made test, I am aware that my heart is beating faster.

Heart does not beat faster	Midpoint	Heart beats faster

26. After taking a teacher-made test, I do not feel very confident that I have done my best.

Do not feel confident	Midpoint	Feel very confident

27. While taking a teacher-made test, I find it difficult to concentrate on the questions because I am concerned with how well I am doing.

Do not find it difficult to concentrate	Midpoint	Find it difficult to concentrate

GO ON TO THE NEXT PAGE

Remember to put a mark at any point on the line as long as that point reflects the strength of your feeling.

28. I feel that a course test result (score) shows what I really know in the subject.

Does not show what I know	Midpoint	Shows what I really know

29. I try to improve my grades from one test to the next.

Try to improve	Midpoint	Do not try to improve

30. While taking a teacher-made test, I find myself thinking about how well I am doing on it.

Do not think about how well I am doing	Midpoint	Think about how well I am doing

31. While taking a teacher-made test, I worry about the possibility of failing it.

Worry about failing	Midpoint	Do not worry about failing

32. Sometimes while taking a test, my mind goes blank.

Mind does not go blank	Midpoint	Mind goes blank

33. Before I begin a scholastic aptitude test, I often feel that I cannot do well.

Feel that I cannot do well	Midpoint	Feel that I can do well

34. Even though I prepare for a course examination, I expect to do poorly on it.

Expect to do poorly	Midpoint	Do not expect to do poorly

35. While taking a teacher-made test, I wonder about how well I am doing.

Do not think about how well I am doing	Midpoint	Wonder about how well I am doing

36. I usually expect to do poorly on a course test.

Expect to do poorly	Midpoint	Expect to do well

NAME______________________ SCHOOL________________ DATE________

BEST ANSWER TEST

Look at the question and the four possible answers below.

What is the purpose of escalators?

_____ To beautify stores.
__1__ To save energy
__2__ To make it easier to get to upper floors.
_____ To save space.

The best answer is "To save energy", and "1" is written before it. The next best answer is "To make it easy to get to upper floors," and "2" is written before it. Now read the question below and mark the best answer "1" and the next best answer "2".

Why are wooden houses painted?

_____ To improve their appearance.
_____ So that they won't all look alike.
_____ To keep them clean.
_____ To protect them from the weather.

You should have put "1" before "To protect them from the weather," and "2" before "To improve their appearance." On the following pages are a number of similar questions about practical things and situations. After you study the questions and answers, put "1" in front of the answer you think best, and "2" in front of the answer you think second best. If you can quickly think of better answers than any given, write them in the space at the right.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO
DO SO

1. Why is a traffic officer superior to a traffic light?

_____He can help people cross the street.
_____He can think.
_____He can control traffic.
_____He can arrest a driver who does something wrong.

2. Why does the state require birth certificates for all babies?

_____Otherwise there would be little difference between babies and animals.
_____So that there will be no doubt about citizenship.
_____To provide a record of births.
_____So people will know how old they are.

3. What should a person do if the driver of the car in which he was riding fell asleep?

_____Try to put his ffot on the brake.
_____Take hold of the steering wheel.
_____Turn off the motor.
_____Try to wake the driver up.

4. Why are overcoats made of wool?

_____It does not catch fire easily.
_____It is a warm material.
_____It costs less than other similar materials.
_____It is an important product of agriculture.

5. What is the thing to do if you find a lost child crying in the street?

_____Buy him some candy to stop his crying.
_____Notify the police.
_____Take him home with you for food and shelter.
_____Try to find out who his parents are.

6. When visiting a sick friend, what should a person do?

_____Talk about the good times he is having.
_____Talk about the times he has been sick.
_____Talk about what other friends are doing.
_____Discuss the friend's illness.

7. Why are skyscrapers built in large cities?

_____To save space.
_____To beautify the city.
_____To draw tourists.
_____Because land is expensive.

8. What is the purpose of air conditioning in a factory?

_____ To keep the worker comfortable
_____ To increase production
_____ To keep factories up to date
_____ To reduce accidents in hot weather

9. Why do schools have fire drills?

_____ To prevent fires
_____ To be prepared in case of fire
_____ To give the students exercise
_____ To satisfy state laws

10. What should you do if you find a friend fighting with a smaller child?

_____ Report the fight to the principal
_____ Help the child
_____ Tell your friend to stop or you will tell the principal
_____ Try to stop the fight

11. Why does water cost less than milk?

_____ It is easier to keep pure
_____ It is necessary to life
_____ There is greater demand for it
_____ It is more plentiful

12. Why should citizens of a democracy vote?

_____ To keep their friends in office
_____ To defeat dishonest officials
_____ To insure representative government
_____ Because it is their duty

13. Why are automobiles equipped with horns?

_____ To signal other people
_____ To help sell automobiles
_____ To scare animals off the road
_____ To aid in accident prevention

14. Why are erasers put on pencils?

_____ For appearance sake
_____ For convenience
_____ To prevent loss of eraser
_____ To sell more pencils

15. Why are automobiles tires made of rubber?

_____ It helps keep cars from skidding
_____ It is flexible
_____ It improves appearance of cars
_____ It is cheap

16. If by mistake you used a package of note paper which belonged to someone else, what should you do?

_____Offer to buy him another package of paper.
_____Tell him that you are sorry but everyone makes mistakes.
_____Replace the paper and say nothing more about it.
_____Explain the mistake and replace the paper.

17. Why are hothouses made of glass?

_____To let the sunlight in.
_____To display the flowers.
_____To protect the flowers.
_____To keep the moisture in.

18. Why are steel bridges painted?

_____To improve their appearance.
_____To keep them from rusting.
_____To keep them clean.
_____To make them more visible at night.

19. Why do people shop in supermarkets?

_____To visit with their friends.
_____To get trading stamps.
_____To save money.
_____Because there is more to choose from.

20. Why is red used to indicate danger?

_____It is a custom of long standing.
_____It always indicates danger.
_____It is the color of blood.
_____It is the most vivid of all colors.

21. Why do people learn about first aid?

_____To get a certificate from the Red Cross.
_____To be prepared for emergencies.
_____To prevent panic.
_____To learn what to do in case of injury or sudden sickness.

22. Why do people contribute to the Red Cross?

_____To help service men in this country and abroad.
_____To prevent floods and disasters.
_____To help people who are in need.
_____Because it is the thing to do.

23. Why do farmers plant many of their crops in rows?

_____For the sake of appearance.
_____So that weeds can be kept down more easily.
_____So that the crops can be harvested more easily.
_____To protect crops from insects.

24. Why do people put rugs on floors?

______To protect the floors.
______For the sake of appearance.
______To keep out dampness.
______To muffle the sounds of walking.

25. Suppose a person were to go into a kitchen and find water dripping from a sink onto the floor, the sink full of dirty dishes, the water tap on, and the kitchen phone ringing steadily. What should he do?

______Call the plumber.
______Answer the phone.
______Turn off the tap.
______Wipe up the floor.

26. One important two-way street in a large city is rather narrow. There is frequently bad traffic congestion on the street. The city council has to find some way to relieve congestion. What should it do?

______Allow no parking on the street.
______Make the street wider.
______Restrict the street to one-way traffic.
______Assign more traffic officers to the street.

27. Bill is late for an assembly in the auditorium. As he rushes through the hall he notices that thick smoke is coming out of an empty classroom. What should he do?

______Get an extinguisher and try to put the fire out.
______Go on to the auditorium to warn the other students.
______Quietly tell the principal or a teacher.
______Run to the nearest fire station for help.

28. A 12 year old boy and his friend were skating on a lake in a park. His friend broke through the ice 50 yards from shore. On the shore are a long rope, and a telephone booth for calling park guards. What should the boy do?

______Go to the shore and call the guards.
______Jump in to try to save his friend.
______Get the rope from shore.
______Advise the friend to remove heavy clothing.

29. John Jones hopes to be the best athlete in school, as well as the best student. He plans to work part-time for pocket money and for savings to use for college. He is running for president of his class. He is going steady with Mary Doe. He needs to practice daily to keep his place as first violinist in the school orchestra. John goes to his counselor for advice. What is the best advice the counselor could give him?

______To stop going steady with Mary.
______To give up some of his activities.
______To safeguard his health so that he can fulfill his many ambitions.
______To be sure not to waste any time.

30. A pilot has to make a forced landing near a mountain cabin. His maps show that the nearest phone is at an isolated fire ranger's cabin 14 miles across the mountains to the north. It is winter. He sets out on foot for the ranger's cabin at 6 A. M. carrying enough food from the plane for only one meal. At 10 A. M., having met no one, he comes to 3 branches of the trail, all unmarked. What should he do?

_____Follow the trail which appear to lead in the right direction until he reaches the cabin or the end of the trail.
_____Turn back immediately to his starting point.
_____Go as far as he can due north, and if still lost, send up a smoke signal.
_____Walk along the trail which appears to lead in the right direction until noon, then turn back if not sure of his location.

31. The school board of a suburban town has to decide how large to make the new high school building. The population has doubled in the last 10 years. Construction is very expensive and the board wishes to keep the costs as low as possible. A neighboring town has already built a new high school building which is believed to be large enough to take care of its students for 30 years. What should the board do?

_____Try to figure out how many students there will be in the future before building.
_____Build a building twice as large as the present one.
_____Build a building for present needs and let the future take care of itself.
_____Make a building large enough for the present which can be easily added to as the need arises.

32. Mary was in the city shopping when she found that she had lost her money. Her home is about 20 miles away. What should she do?

_____Try to borrow money from someone.
_____Ask a sales girl to let her call her mother.
_____Tell the nearest policeman what happened.
_____Tell the store manager what happened.

33. Bob and Frank were fishing in a wooden boat on a small lake when the boat overturned. Bob could swim, but Frank could not. What should Bob do?

_____Help Frank hold to the boat and shout for help.
_____Try to pull Frank to the shore.
_____Swim to the shore for help while Frank holds to the boat.
_____Try to turn the boat right side up.

34. Jane was baby sitting with an eight-month old baby. The baby suddenly became sick. What should Jane do?

_____Call a neighbor or her own mother.
_____Call the parents.
_____Comfort the baby until the parents come home.
_____Call a Doctor.

35. Susan overheard a conversation in which Jane made a nasty remark about her. What should Susan do?

_____Try to find out why Jane made the remark.
_____Not speak to Jane again.
_____Make nasty remarks about Jane.
_____Forget the matter.

36. Tom and Bill were playing badminton. Tom was a better player than Bill. After awhile Bill threatened to quit because he was losing. There was no one else to play with, and Tom wanted to continue playing. What should he do?

_____Tell Bill that he's being a sissy if he quits.
_____Offer to buy Bill some candy if he keeps on playing.
_____Offer Bill a handicap.
_____Promise to help Bill improve his play.

NAME____________________ SCHOOL________________ DATE

PLANNING

DIRECTIONS: You are going to be given some problems which require planning before they could be solved. Some information may be missing which you would have to know before you could reach an answer or decision. You are to read the problem, and then decide what information is needed before you could solve it. Write down all the facts that you think are needed on the blank spaces underneath the problem.

1. You are offered a part-time job in a drugstore. You would like to have the extra money, your parents say that they will allow you to work, and the job pays $1.25 an hour. What else might you want to know before deciding to accept the job?

____

____

____

2. John's mother told him to look around for a bargain in shirts since he needed some badly. John noticed that Murphy's store was having a sale on shirts. The sign in the window said, "REDUCED TO $1.98!" He went over to the window and saw that some of the shirts were his favorite colors. What might he want to ask the clerk or think about before deciding to buy some of the shirts?

____

____

____

3. In one year twice as many men died while fishing as they did while hunting. What facts would you have to know before you could decide which sport was more dangerous?

____

____

____

4. Richard goes to a large junior high school which is three stories high. His locker is on the third floor. He has six different classes, and he is required to bring a textbook to five of them. There are three minutes between classes. What facts should he try to find out during the first few days of school so that he can get to his classes more easily?

____

____

____

5. The Harrison Family has been talking about what they would like to do on their next vacation. They are excited about the idea of going south. No one in the family was ever in Florida. What facts should they find out before they definitely decide?

____

____

____

6. During a science-class discussion, Gail reports that she read a recent article in the Saturday Evening Post by Dr. Nicholas Sarkoff which said that flying saucers were real. The teacher asks the rest of the class for their opinions. What questions might you want to ask Gail?

____

____

____

7. A bus company wants to set up a route from a small town to a large city, since there has been a demand in the community for such a route. People in the town have indicated that they would like about three buses a day. The buses are available, bus drivers have been obtained, and permission for such a route has been granted. One important job that remains is to plan the actual route. What might the bus company have to consider before it decides what route the bus will follow in going to the large city?

____

____

____

COLLEGE OF EDUCATION, UNIVERSITY OF DELAWARE

High School Study

Dear Student:

The College of Education at the University of Delaware is doing a study to find out what high school students think about themselves, their school work, and their future plans. The information that you give us will be of great value in developing counseling programs for high school youth. For this reason we are very anxious to have you answer the questions included in this questionnaire to the best of your ability.

The answers you give will not be shown to your teachers or anyone else, and will not in any way affect your grades. No one will see the answers you give except the research staff.

Your help in this study is greatly appreciated.

Part I

ABOUT MYSELF

1. My name is: ____
(last name) (first name) (middle name)

2. My sex is: M ______________ F ______________

3. The date of my birth was ________________________________
(month) (day) (year)

4. My address is: ____

5. I make my regular home with:
( ) my own parents
( ) a parent and a step-parent
( ) my mother only
( ) my father only
( ) my grandparents
( ) an uncle and aunt
( ) other (please specify) ______________________________.

6. My mother (or the adult female in my home):
( ) has no job outside the home.
( ) has a part-time job outside the home.
( ) has a full-time job outside the home.

7. My mother's education consisted of:
( ) less than 8 grades
( ) 8 grades
( ) 9-11 grades
( ) 12 grades
( ) some college
( ) college degree
( ) graduate or professional degree

8. My father's occupation (or the occupation of the male head of the household in which I live) is: (please give a good description of the occupation, job title if possible, not just the company for which he works.)

9. My father's education consisted of:
( ) less than 8 grades
( ) 8 grades
( ) 9-11 grades
( ) 12 grades
( ) some college
( ) college degree
( ) graduate or professional degree

10. My church preference is:______________________________
Member: ( )yes ( )no

11. The name of my high school is:_________________________

12. I am in the ______________grade.

13. The kinds of extra curricular activities in which I participate are: (check the ones in which you participate regularly, and add to the list if necessary).
( ) athletics
( ) band-orchestra
( ) chorus-vocal
( ) dramatics
( ) debates
( ) 4-H or FFA
( ) school paper
( ) annual
( ) student government
( ) hobby club
( ) other______________
( )__________________
( )__________________
( )__________________
( )__________________
( )__________________
( )__________________
( )__________________
( )__________________

14. Compared to most students in my high school, my leadership activities are:
( ) greater than average
( ) about average
( ) less than average

15. As to working while I am in school:
( ) I have a fairly regular job outside my family and home
( ) I sometimes work outside my family and home
( ) I do not work outside my family and home

Part II

This set of questions concerns your plans and wishes regarding occupations and education. There are ten (10) questions. Read and answer each question carefully. Several of the questions ask you to indicate specific occupational choices. In those cases give a good description of each occupation, occupational titles whenever possible.

1. If I were absolutely free to follow any occupation I wanted my choice would be:

____

____

2. Sometimes what one would like to do is not exactly what he must plan to do. What occupation are you pretty sure you will be able and plan to follow?

____

____

____

3. Compared with my friends, I think my chances for getting ahead in the occupation of my choice are:
( ) very much above average
( ) somewhat above average
( ) just average
( ) somewhat below average
( ) very much below average

4. In the occupation I have chosen I can expect help in getting started:
( ) from my father and mother
( ) from relatives
( ) from other adult friends
( ) from no one
( ) I don't know because I have not made my choice yet

5. If you were absolutely free to go as far in school as you wanted, how far would you like to go?
( ) less than high school
( ) high school graduation
( ) high school graduation plus special training (e.g. , trade school)
( ) some college but not college graduation
( ) college graduation
( ) beyond college (graduate or professional school)

6. Sometimes what one would like to do is not exactly what he must plan to do. How far in school are you pretty sure you will be able and plan to do?
( ) less than high school
( ) high school graduation
( ) high school graduation plus special training (e.g., trade school)
( ) some college but not college graduation
( ) college graduation
( ) beyond college (graduate or professional school)

7. As to continuing my education beyond high school, my father:
( ) has strongly encouraged me to continue
( ) has given me some encouragement to continue
( ) has never said much about it
( ) feels that I would be better off going to work after high school
( ) feels that I should quit high school and go to work

8. As to continuing my education beyond high school, my mother:
( ) has strongly encouraged me to continue
( ) has given me some encouragement to continue
( ) has never said much about it
( ) feels that I would be better off going to work after high school
( ) feels that I should quit high school and go to work

9. As to any further help from my parents in getting a start or in continuing my schooling after high school, they would be:
( ) financially able to help me a great deal
( ) financially able to give me some help
( ) financially able to give me no help

10. As to further help from my parents after I finish high school , they would be:
( ) willing to help me a great deal
( ) willing to give me some help
( ) willing to give me no help

Part III

1. There are many people who are important in our lives. In the space below, list the names of the people who you feel are important in your life. Please indicate who each person is as follows:

Their names	Their exact occupations (their job titles, not the company they work for)	Their relationship to you (friend, relative, teacher, minister, et
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

2. There are many people who are concerned about how well young people do in school. In the space below, list the names of the people you feel are concerned about how well you do in school. Please indicate who each person is as follows:

Their names	Their exact occupations (their job titles, not the company they work for)	Their relationship to you (friend, relative teacher, minister, e
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

3. If you could be like anyone in the world, who would you want to be like?

The person's name	The person's exact occupation job title if possible	The person's relationship to you (friend, relative, teacher, minister, etc.)

Part IV

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
   - a. I am the best
   - b. I am above average
   - c. I am average
   - d. I am below average
   - e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?
   - a. I am among the best
   - b. I am above average
   - c. I am average
   - d. I am below average
   - e. I am among the poorest

3. Where do you think you would rank in your high school graduating class?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

4. Do you think you have the ability to complete college?
   - a. yes, definitely
   - b. yes, probably
   - c. not sure either way
   - d. probably not
   - e. no

5. Where do you think you would rank in your class in college?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
   - a. very likely
   - b. somewhat likely
   - c. not sure either way
   - d. unlikely
   - e. most unlikely

Go on to the next page

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

   a. My work is excellent
   b. My work is good
   c. My work is average
   d. My work is below average
   e. My work is much below average

8. What kind of grades do you think you are capable of getting?

   a. Mostly A's
   b. Mostly B's
   c. Mostly C's
   d. Mostly D's
   e. Mostly E's

9. How important to you are the grades you get in school?

   a. Very important
   b. Important
   c. Not particularly important
   d. Grades don't matter to me at all

10. How important is it to you to be high in your class in grades?

   a. Very important
   b. Important
   c. Not particularly important
   d. Doesn't matter to me at all

11. How do you feel if you don't do as well in school as you know you can?

   a. Feel very badly
   b. Feel badly
   c. Don't feel particularly badly
   d. Doesn't bother me at all

12. How important is it to you to do better than others in school?

   a. Very important
   b. Important
   c. Not particularly important
   d. Doesn't matter to me at all

13. Which statement best describes you?

   a. I like to get better grades than everyone else.
   b. I like to get better grades than almost everyone else.
   c. I like to get about the same grades as everyone else.
   d. I don't care about any particular grades

Go on to the next page

14. In your schoolwork do you try to do better than others?

    a. All of the time
    b. Most of the time
    c. Occasionally
    d. Never

15. How important to you are good grades compared with other aspects of school?

    a. Good grades are the most important thing in school
    b. Good grades are among the important things in school
    c. Some other things in school are more important
    d. Good grades don't matter to me at all

NAME____________________ SCHOOL________________ DATE__________

MISSING FACTS

Directions: You are going to be given some problems. Some of these problems cannot be solved because certain necessary information is missing. You are to read the problem, and then decide if any other fact is needed before you could solve it. If more information is needed, write down exactly what fact or facts are needed on the blank underneath the problem. If the problem can be solved without further information, write "none" in the blank.

SAMPLE A: A person spent $3.75 while out shopping. How much money did he have left?

How much money did he have in the beginning

SAMPLE B: Tom bought 4 cartons of orange drink. There were about 4 glasses in each carton. About how many servings (one serving = one glass) could he get from the 4 cartons?

none

No further information is needed in Sample B, so "none" has been written in the blank under the problem.

Notice that you are not supposed to work the problems; simply write down what facts are needed.

1. It was the twentieth day of the month when Jack started to think about his birthday. He could hardly wait for it to arrive because he knew that one of his gifts would be a .22 rifle. He decided to figure out how many days there were until his birthday which was on the seventeenth of the following month. How many days were there?

____

2. When Terry was in sixth grade he weighed 79 pounds. He hoped to gain 30 pounds before the end of ninth grade so that he would weigh as much as his older brother did. When Terry finished eighth grade, he found that he had gained weight. How much did he weigh at the end of eighth grade?

____

3. Kathy got her parents' permission to have a party. She decided to invite 17 friends. That meant she had to write 17 invitations and buy 17 stamps. Kathy remembered that a $.04 stamp is necessary now instead of a $.03 stamp. If Kathy has $.50 of her weekly allowance left, how much might she have to borrow from her mother?

____

4. Dave's father added $150 to his bank account from his paycheck of $180. The next day he withdrew $69. How much money remained in his bank account?

____

5. Janet's mother decided to can some home-grown tomatoes. She wanted to know how many glass jars to buy, and what size jar would be best. She found that a pint jar would hold about a half-dozen tomatoes. She estimated that she would get about 100 tomatoes from the family garden. About how many jars should Janet's mother consider buying?

____

6. Rick wanted to paint his room. The clerk at the paint store told him to find out how much surface he would be painting. Rick made some measurements and found that the length of his room was 20 feet and the width was 15 feet. What was the area of the ceiling, four walls, and the floor?

____

7. Bill was having a Halloween party for 15 friends. The refreshments includ a large jug of cider. Bill noticed that after one hour 2/3 of the cider had been poured out and drunk. Bill wondered how many pints of cider were left.

____

8. Joe didn't like to get up any earlier than was necessary. He found that if he ran to the bus stop (2 blocks away) at the last minute, and then ran to school when he got off the bus (one block), he could reach school in 12 minutes. How far was it from his home to the school?

____

9. Sue's family decided to drive to Hopetown to visit some friends. The distance from their home to Hopetown was 56 miles. The train traveled the distance in 1-1/2 hours. However, the family decided to travel by car and leave at 7 A.M. What time will they arrive in Hopetown?

____

10. Ann and Linda were comparing the sizes of their rooms. Ann found that the distance around her room was 80 feet. Linda knew that the width of her room was three times the length. What was the difference in the distance around the two rooms?

____

11. An eight ounce bottle of pop costs $.14. The large size bottle costs $.24. Joan wonders if she will save money if she buys the large size.

____

12. Ronnie knew that sound travels about 1100 feet per second. He had heard in science class that a person could estimate how far away a streak of lightning was by counting the seconds between the flash and the thunder. Every 5 seconds meant about one mile of distance. At 10:00 P.M. during a thunder storm Ronnie began to watch for flashes of lightning. Four seconds later he saw a flash. How far away was the thunder?

____

13. Tony's parents are looking for some bushes to plant in their front yard. A friend of the family tells them that two nearby towns have good places to buy plants. Tony's father looks at a map carefully and finds that the first town is 1 3/4 inches away on the map, and the second town is 1 1/8 inches away. How many miles nearer is the second town?

____

14. A housewife found that the 1/2 pint size of mayonnaise was on sale for $.23. She also noticed that large boxes of soap powder were selling for $.29. How much would she save by buying a one pint jar of mayonnaise rather than two 1/2 pint jars?

____

15. Steve has a photograph of his dog which is 3 inches wide and 4 inches long. He has the equipment for enlarging photographs at home. He plans to make the picture 12 inches long so that it will fit into a frame which he owns. How wide will the picture become?

____

16. A tree outside Alan's window has grown so much during the past year that it is now 4 inches above his window sill. If the window sill is 19 feet above the ground, how many inches has the tree grown during the past year?

____

17. Lorraine decided to bake a cake as a surprise for the family. The recipe required six ounces of milk. Lorraine found that she had three and one-fourth cups of milk. How many ounces of milk remained after she had baked the cake?

____

18. Early in the baseball season the Giants had won 11 games and the Cubs had won 13 games. Which team was ahead of the other?

____

19. Ted wants to buy a second-hand car for $295. His father says that Ted may buy one, but he will have to earn all the expenses of operating the car. Ted and his father figured out that the car would probably cost Ted about $.08 a mile. Ted didn't think that was very much money, especially since he earned $15 a week in a local drugstore. His father suggested that he figure out how much it would cost to drive the car for every one thousand miles.

____

20. Among boys of school age, accidents cause 4 out of every 10 deaths. Of the 14,000,000 boys enrolled in school, how many are killed each year by accidents?

____

21. Sending pupils to and from school by bus costs a great deal of money in modern schools. The total cost for school bus transportation in the United States last year was 130 million dollars. It has been estimated that the total number of pupils in all our schools last year was about 28 million. About how much money were schools spending on each bus pupil for his transportation?

____

22. It is almost Christmas time and Nancy has thought about buying her mother some perfume. Nancy has saved exactly $5.00. She decides to ask about the price of her mother's favorite perfume. The clerk tells her that the price is $1.20 an ounce plus a tax. Exactly how much money does Nancy need to save in order to buy six ounces of the perfume?

____

23. Last year the average person in this country ate 138 pounds of meat. How much meat was eaten by everyone in the United States last year?

____

24. Kathy was the chairman of the decoration committee for a school dance. She bought a roll of crepe paper which contained 300 feet of paper. She used 100 feet of the paper to decorate 50 feet of the school hall. She still had 10 feet of the hall to decorate. How many feet of crepe paper will she still have to use?

____

25. Harold's favorite sport was swimming and he took two swimming lessons every week. During his last lesson the instructor told Harold to swim the length of the pool. Harold learned that he could swim the length of the pool in 22 seconds. How many feet could he swim each second?

____

26. Mrs. Hamilton canned 45 quarts of applesauce to sell to neighbors. She used 2 bushels of cooking apples at $2.45 a bushel. The jars cost $2.40, and she used $.60 worth of sugar and spices. Did she make a profit?

____

27. Lois wants to send a package by parcel post. The clerk at the post office told her that the postage was $.19 for each pound beyond the first pound. If the package weighs six pounds, how much money will Lois have to spend for postage?

____

28. A truckdriver carrying a load of lumber approached a bridge. He noticed a sign which said, "LIMIT --5 TONS." The driver knew that his load of lumber weighed 3 tons. Should he continue across the bridge?

____

29. Bill left school at 3:30 P.M. It was necessary for him to be home at 4:00 P.M. He decided to take the bus which took 10 minutes to get him home. Would he make it home in time?

____

30. Sharon wants to buy a record player which costs $24.00. Her allowance is $3.00 a week. She is expected to buy her lunch at school out of that allowance. How long should it take Sharon to save enough money for the record player, if she really tries to save as much as she can?

____

NAME________________________ SCHOOL________________ DATE__________

IDEAS

Often, such as in conversations, it is good to have ideas about a subject. See how many ideas you can think of about the subject you are to be given. Be sure to list all the ideas you can about the subject whether they seem unimportant or not.

Here is a sample problem. Four examples are given below of ideas about the subject, "A train journey." Look at these examples: Then go ahead and fill the blanks with more ideas about the subject, "A train journey."

number of miles

catching the train

conductor

what time train will arrive

____

____

When the signal is given (not yet), turn the page. Another subject will be given. You are to list as many ideas as you can about the new subject. Work as rapidly as you can. You will be allowed 5 minutes for each sample.

DO NOT TURN THIS PAGE UNTIL YOU
ARE TOLD TO DO SO

IDEAS

The new subject is: "A man going up a ladder." List all the ideas you can think of about a man going up a ladder.

1. ____

2. ____

3. ____

4. ____

5. ____

6. ____

7. ____

8. ____

9. ____

10. ____

11. ____

12. ____

13. ____

14. ____

15. ____

16. ____

17. ____

18. ____

19. ____

20. ____

21. ____

22. ____

23. ____

24. ____

25. ____

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

IDEAS

The next subject is: "A man driving a truck down the street." List all the ideas you can think of about a man driving a truck down the street.

1. ____________________
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NAME ____________________ SCHOOL ______________ DATE ________

USES

DIRECTIONS: In these problems you will be given the name of a common object. You are to list any other uses for which the object or part of the object might possibly be used. These uses may be ones for which you have used the object or seen the object used, or they may be special uses that you might think up.

SAMPLE: Fingernail file--used for filing and cleaning the fingernails.

letter opener ____________________

prying things apart ____________________

pointer ____________________

dagger ____________________

____

For each common object list as many possible uses for the whole object or part of the object as you can. You will be allowed 4 minutes for each example.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

NEWSPAPER: used to read about daily happenings

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20. ______________________________

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

BRICK: used in buildings

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16. ____
17. ____
18. ____
19. ____
20. ____

NAME ______________________ SCHOOL ________ DATE ________

FIRST LETTER

Look at the following words in the following list. Each word begins with D.

doll ______________________

daily ______________________

duet ______________________

dumb ______________________

When the signal is given (not yet) you will be given a different letter. Write as many words as you can which begin with this next letter. You will be allowed 3 minutes for each example.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

The new letter is P. Write as many words as you can which begin with P.

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100. ____________

The next letter is B. Write as many words as you can which begin with B.

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100. ____________

Self-Social Symbols Tasks

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Robert C. Ziller 1966
Barbara H. Long
Edmund H. Henderson

University of Delaware
Newark, Delaware

Name ______________________________

Age ______________________________

Boy Girl

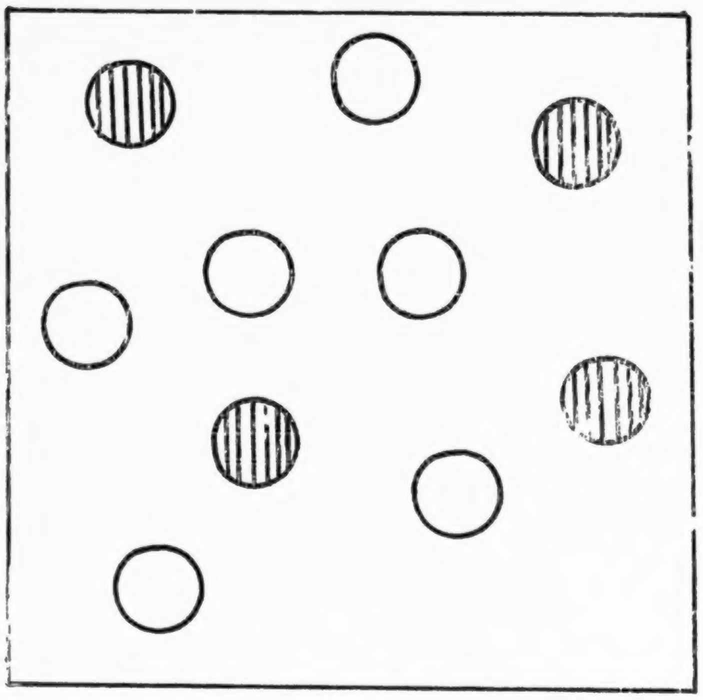
Grade 4 5 6 7 8 9 10 11 12

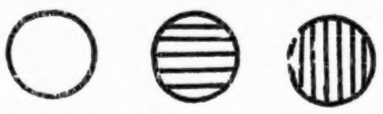
Brothers		Sisters	
name	age	name	age

Father's Occupation ______________________________

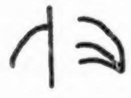
Mother's Occupation ______________________________

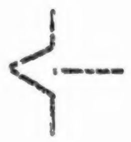
1. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

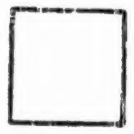




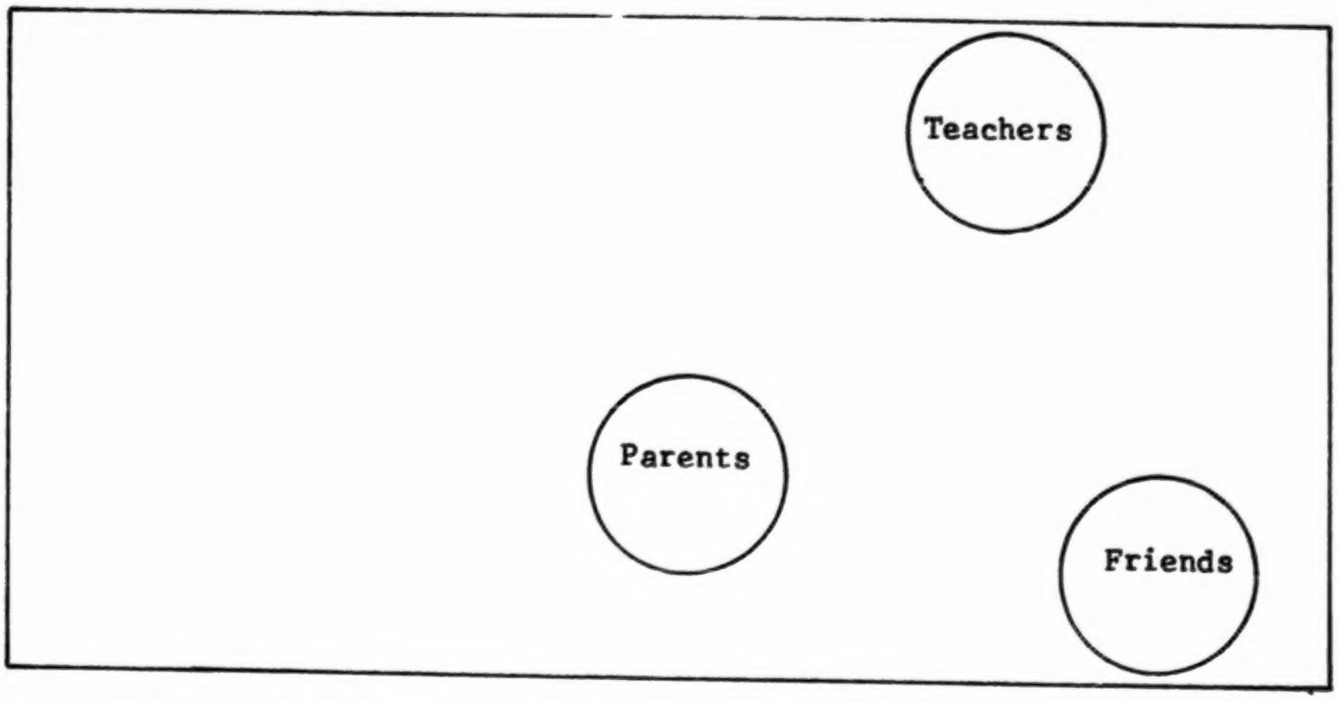
2. Choose one of the designs below to stand for yourself. Draw a circle around it.



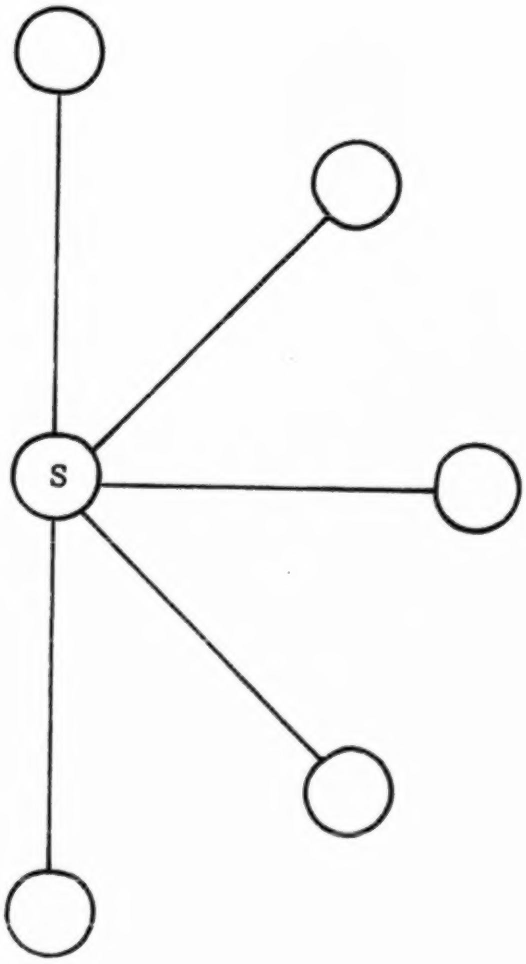




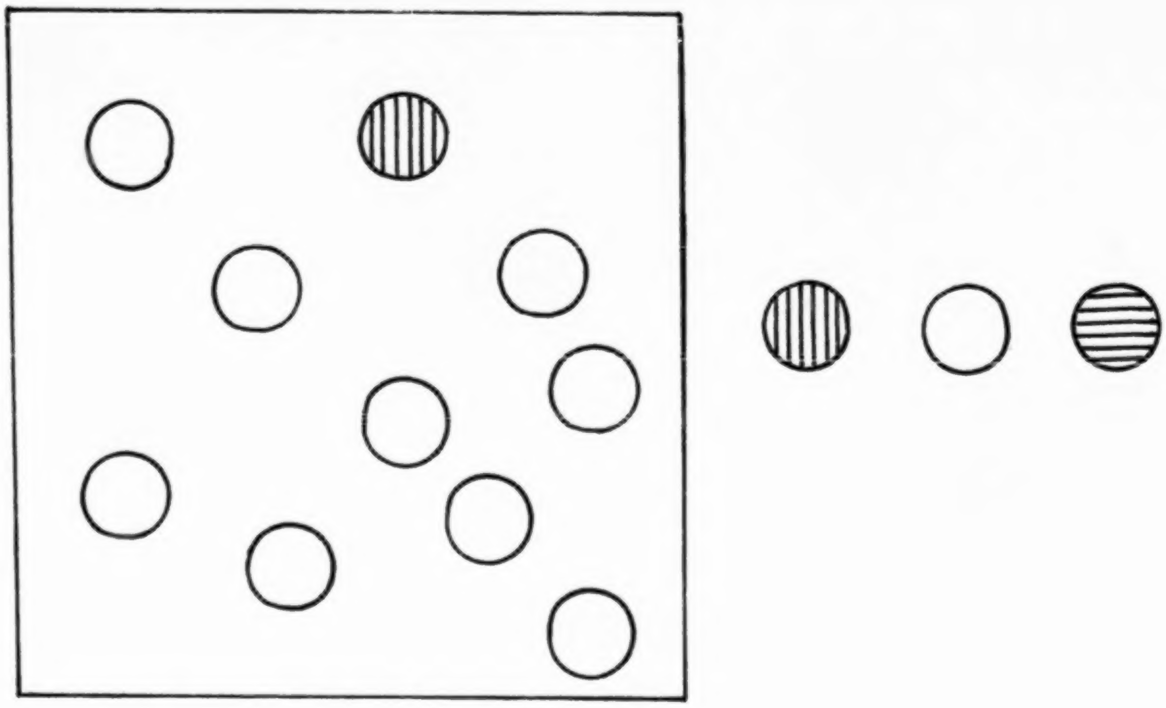
3. The circles below stand for your Parents, Teachers, and Friends. Draw a circle to stand for yourself anywhere in the space below.


Teachers
Parents
Friends

4. The circle below marked S̲ stands for yourself. Choose one of the circles to stand for your father, and put an F̲ in it.

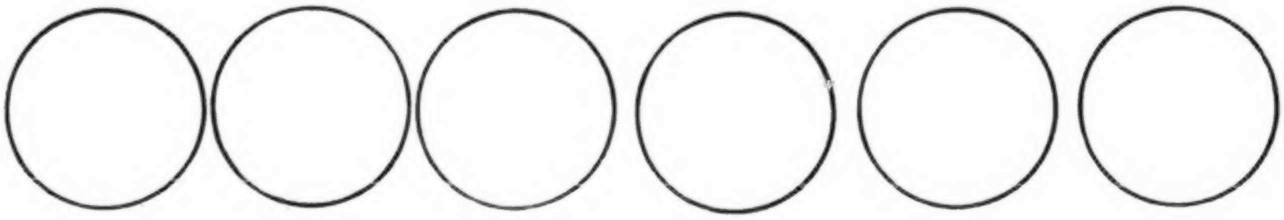


5. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

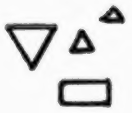


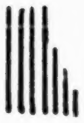
6. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

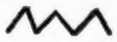
D - Doctor
F - Father
Fr- Friend
M - Mother
S - Yourself
T - Teacher



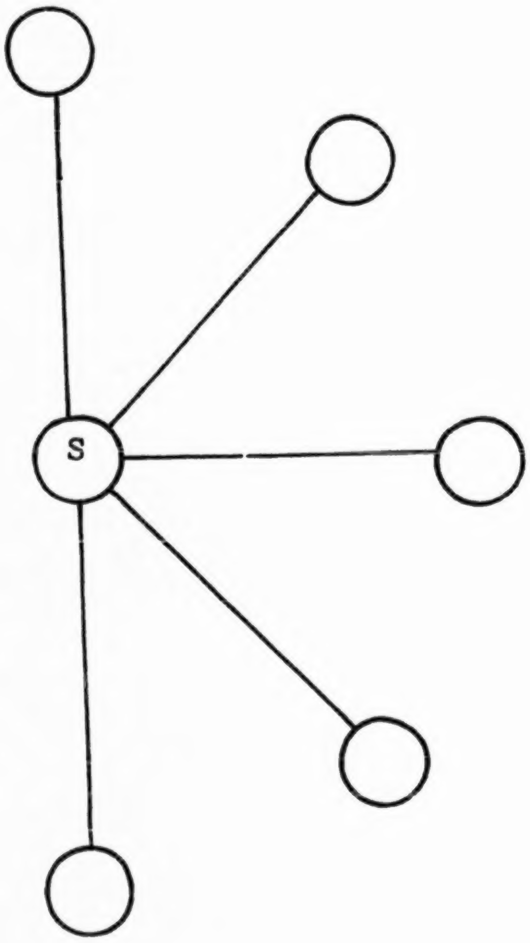
7. Choose one of the designs below to stand for yourself. Draw a circle around it.



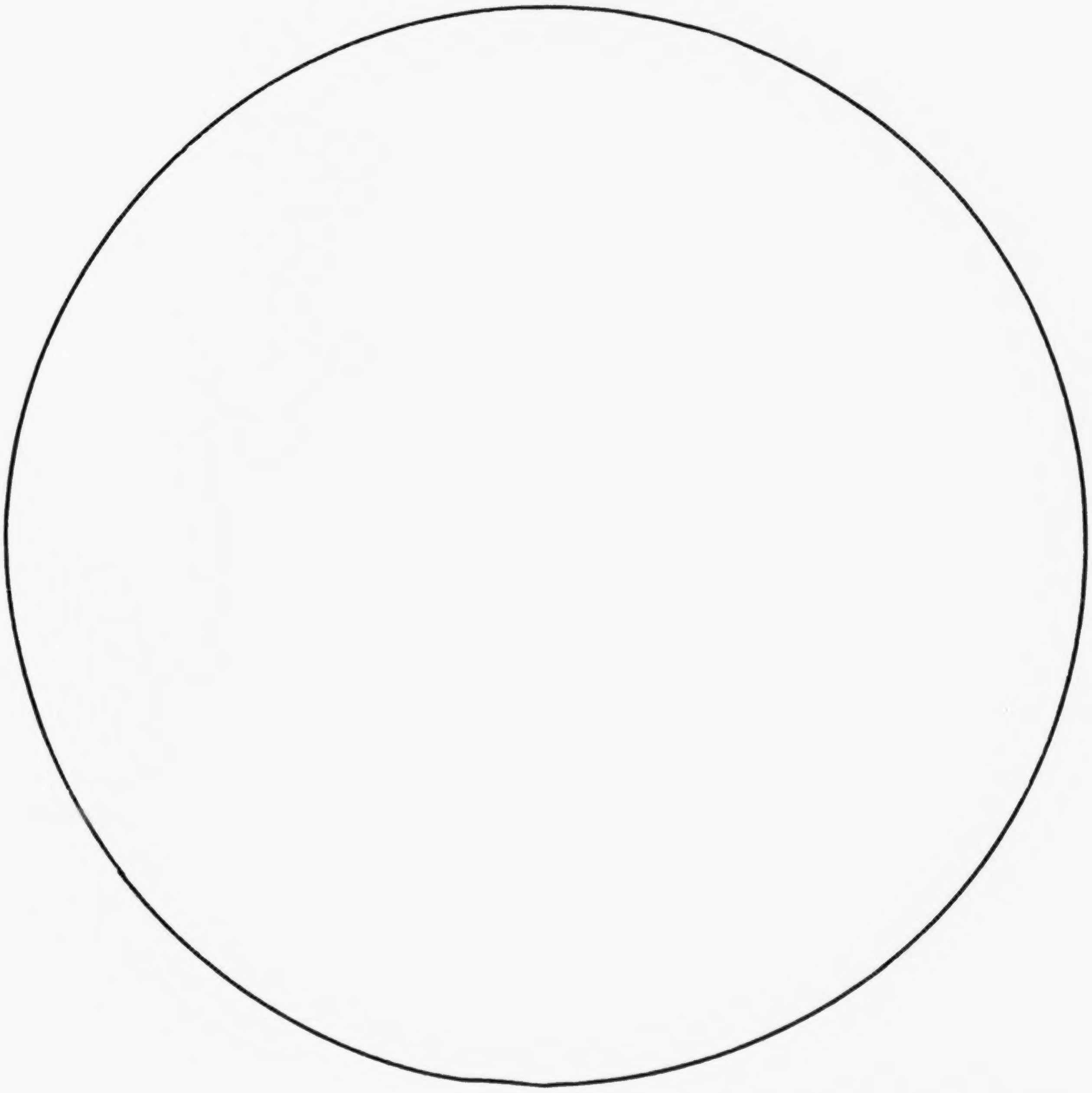




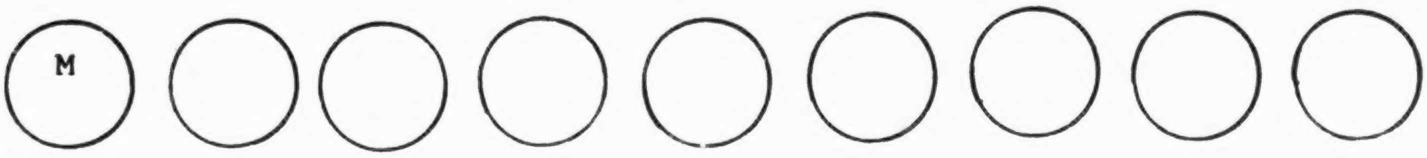
8. The circle below marked S̲ stands for yourself. Choose one of the circles to stand for your teacher, and put a T̲ in it.



9. In the large circle below, draw two circles--one to stand for yourself and a second to stand for a friend. Place an S in the circle for self and an F in the circle for your friend.



10. The M below stands for your mother. Choose one of the circles to stand for yourself, and place an S in it.

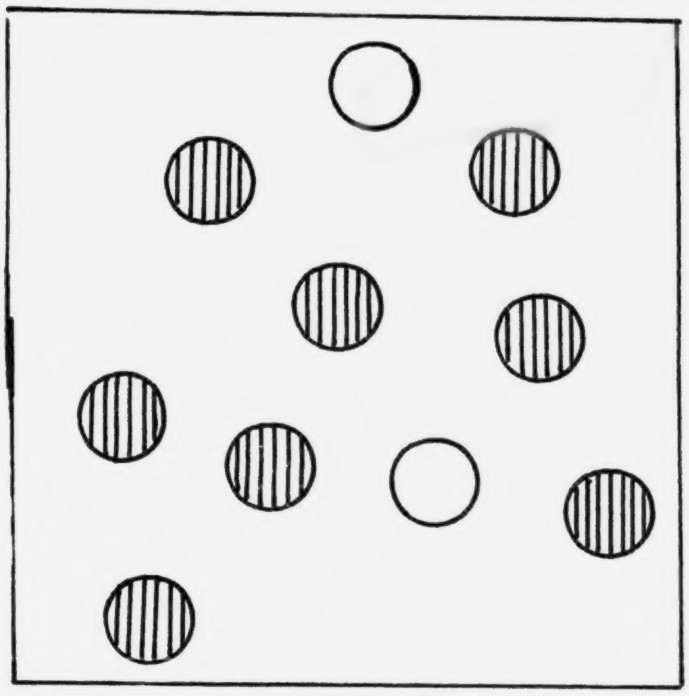


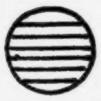
11. D F Fr H M N S Su U

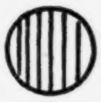
These letters stand for the following people: D Doctor, F Father, Fr Friend, H someone you know who is happy, M Mother, N a neighbor, S yourself, Su someone you know who is successful, U someone with whom you are uncomfortable.

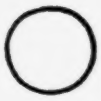
Your task is to arrange these people into as many or as few groups as you wish. In the space below, draw a circle around the letter to stand for each person, putting whichever ones you wish together. It does not matter how you arrange the people, but use each person only once and be sure to use all of them. If you think a person does not belong with any of the others, he may be placed by himself. When you have finished grouping the circles, draw a large circle around each of the groups in order to keep them separated.

12. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

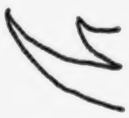


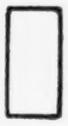


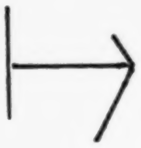




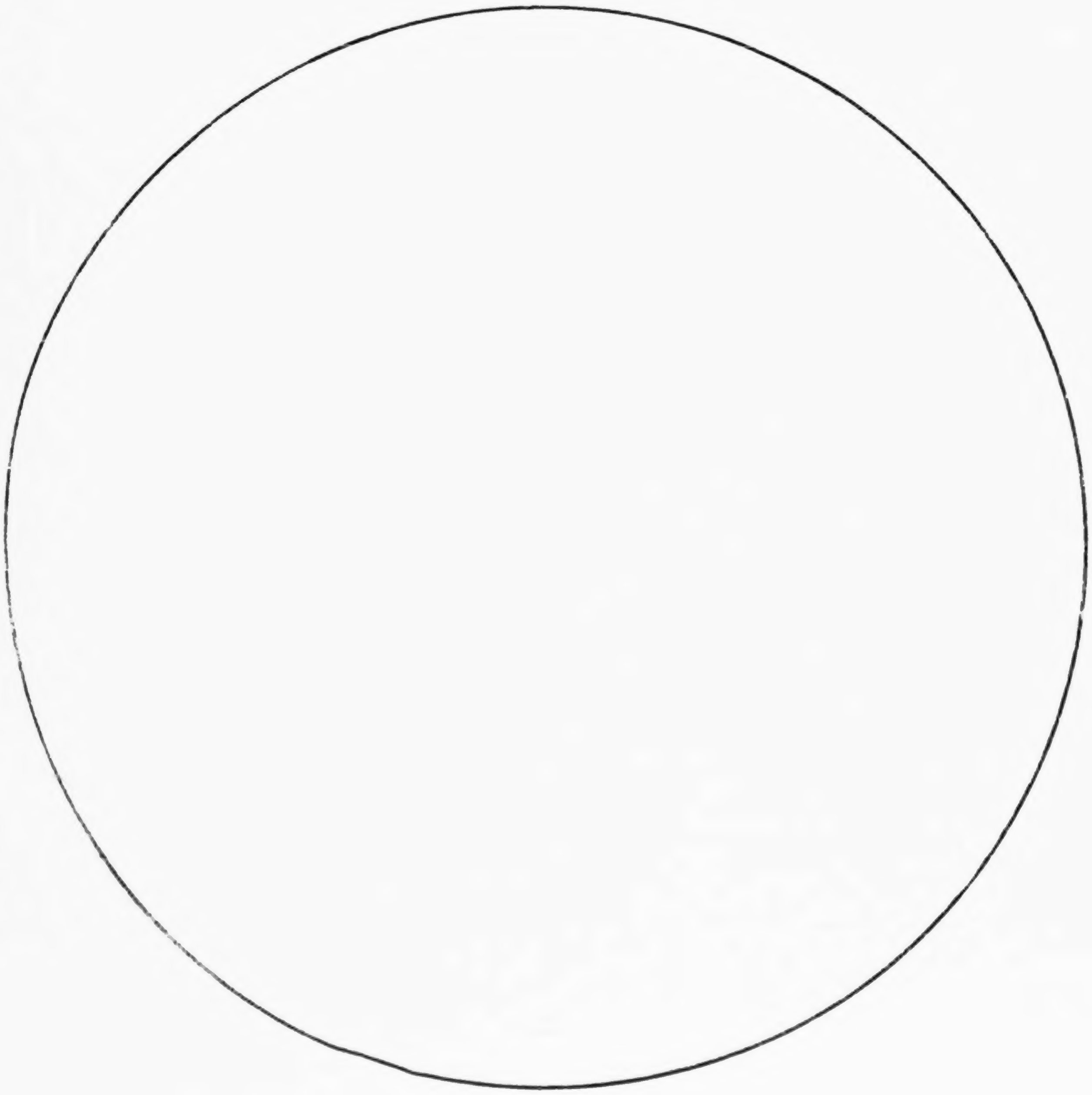
13. Choose one of the designs below to stand for yourself. Draw a circle around it.



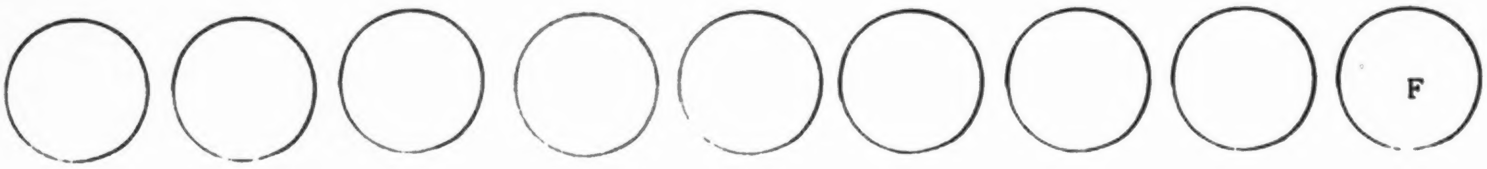




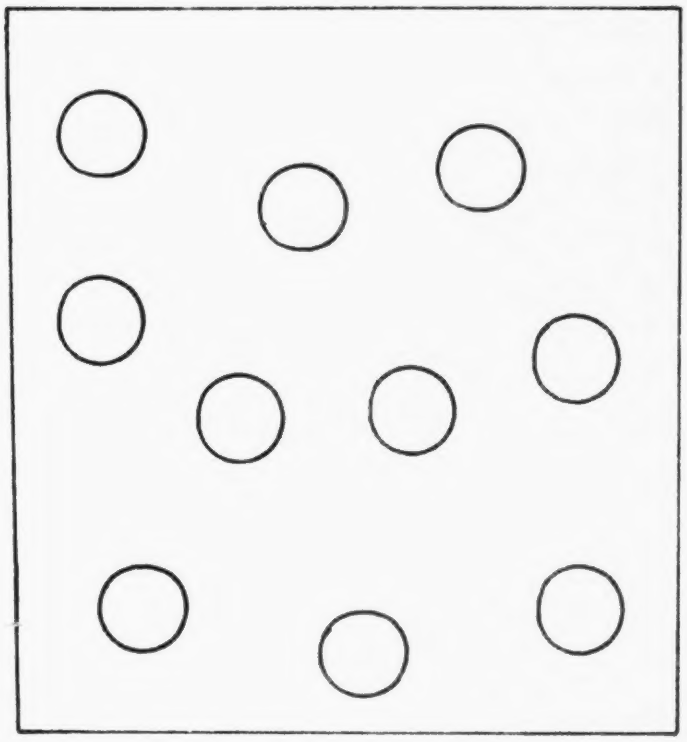
14. In the large circle below, draw two circles--one to stand for a friend and a second to stand for yourself. Place an F in the circle for your friend and an S in the circle for yourself.

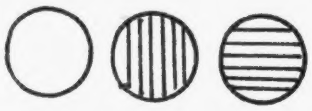


15. The F below stands for a friend. Choose one of the circles to stand for yourself, and place an S in it.

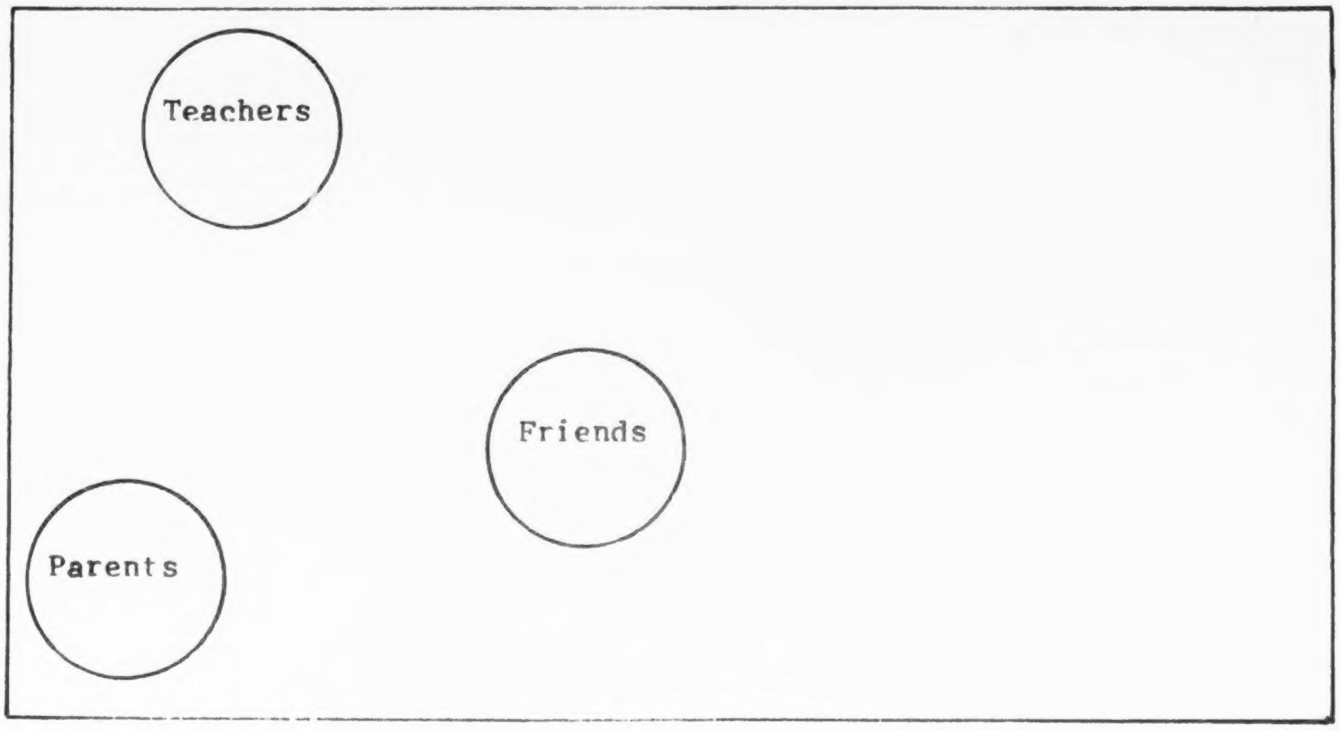


16. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

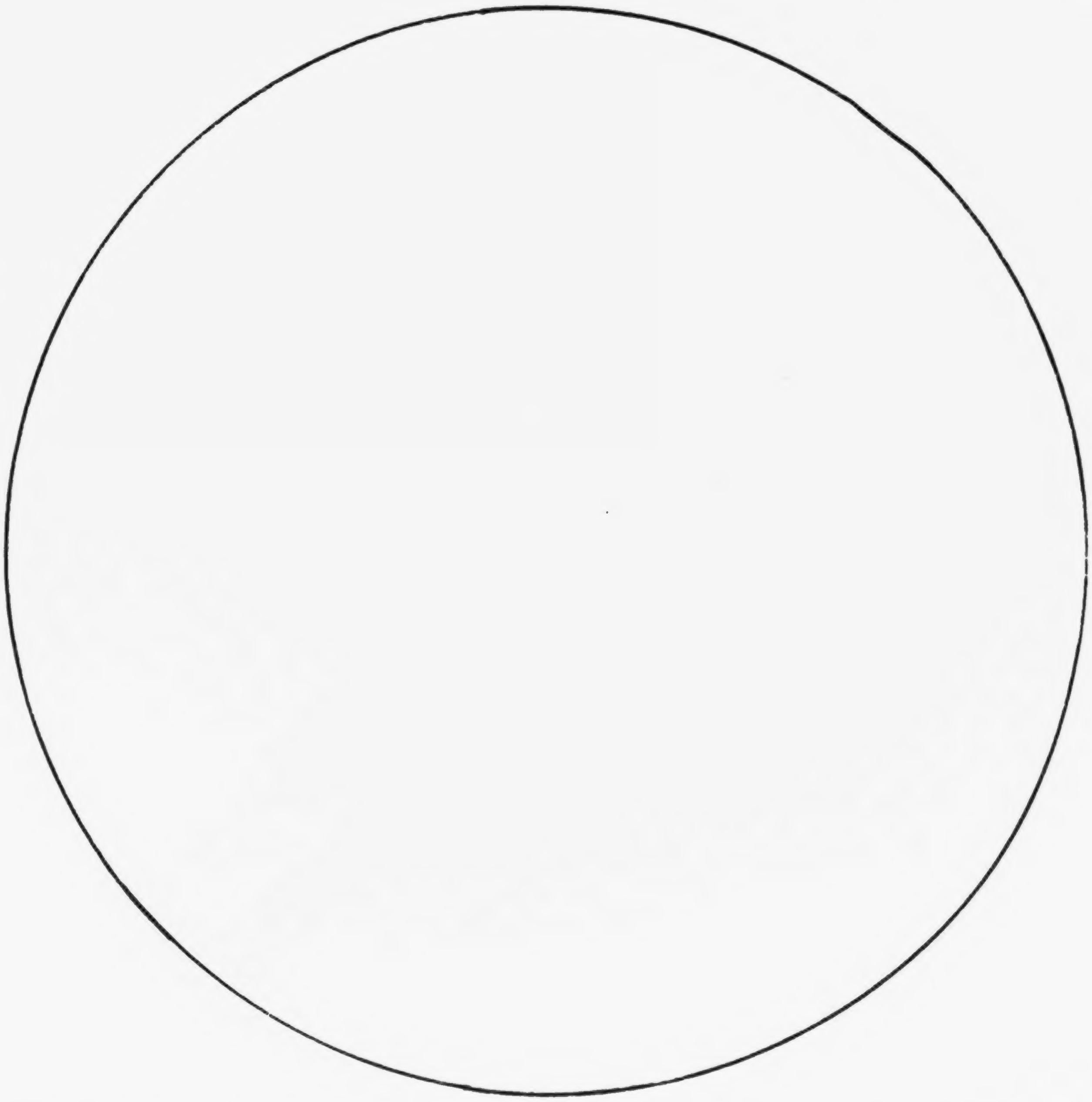




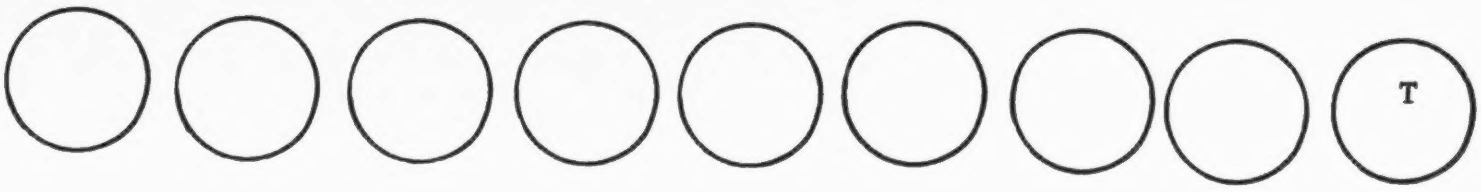
17. The circles below stand for your Parents, Teachers, and Friends. Draw a circle to stand for yourself anywhere in the space below.



18. In the large circle below, draw two circles--one to stand for yourself and a second to stand for a friend. Place an S in the circle for self and an F in the circle for your friend.



19. The T below stands for your Teacher. Choose one of the circles to stand for yourself, and place an S in it.

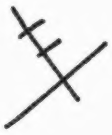


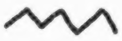
20. D F Fr Fu M S St W U

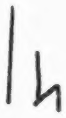
These letters stand for the following people: D Doctor, F Father, Fr Friend, Fu the funniest person in your class, M mother, S yourself, St the strongest person you know, W someone you know who is hard working, U someone you know who is unsuccessful.

Your task is to arrange these people into as many or as few groups as you wish. In the space below, draw a circle around the letter to stand for each person, putting whichever ones you wish together. It does not matter how you arrange the people, but use each person only once and be sure to use all of them. If you think a person does not belong with any of the others, he may be placed by himself. When you have finished grouping the circles, draw a large circle around each of the groups in order to keep them separated.

21. Choose one of the designs below to stand for yourself. Draw a circle around it.





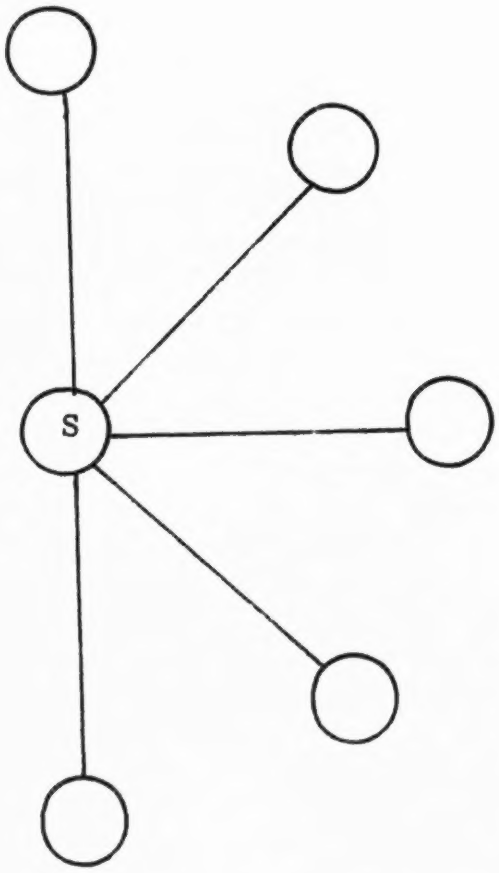


22. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

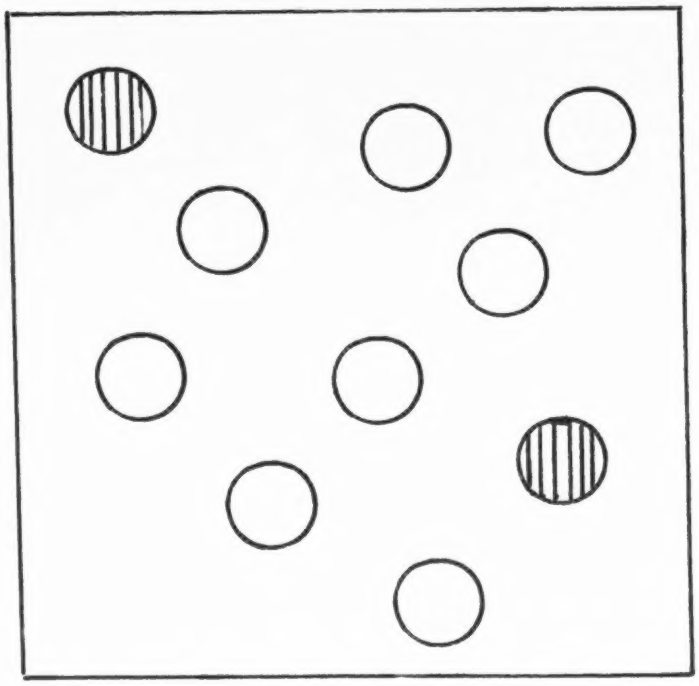
A - someone you know who is a good athlete
D - someone you know who is a good dancer
F - someone in your class who is funny
G - someone in your class who gets good grades
S - yourself
U - someone you know who is unhappy

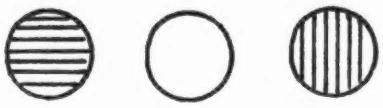
○ ○ ○ ○ ○ ○

23. The circle below marked S stand for yourself. Choose one of the circles to stand for your friend, and put a Fr in it.

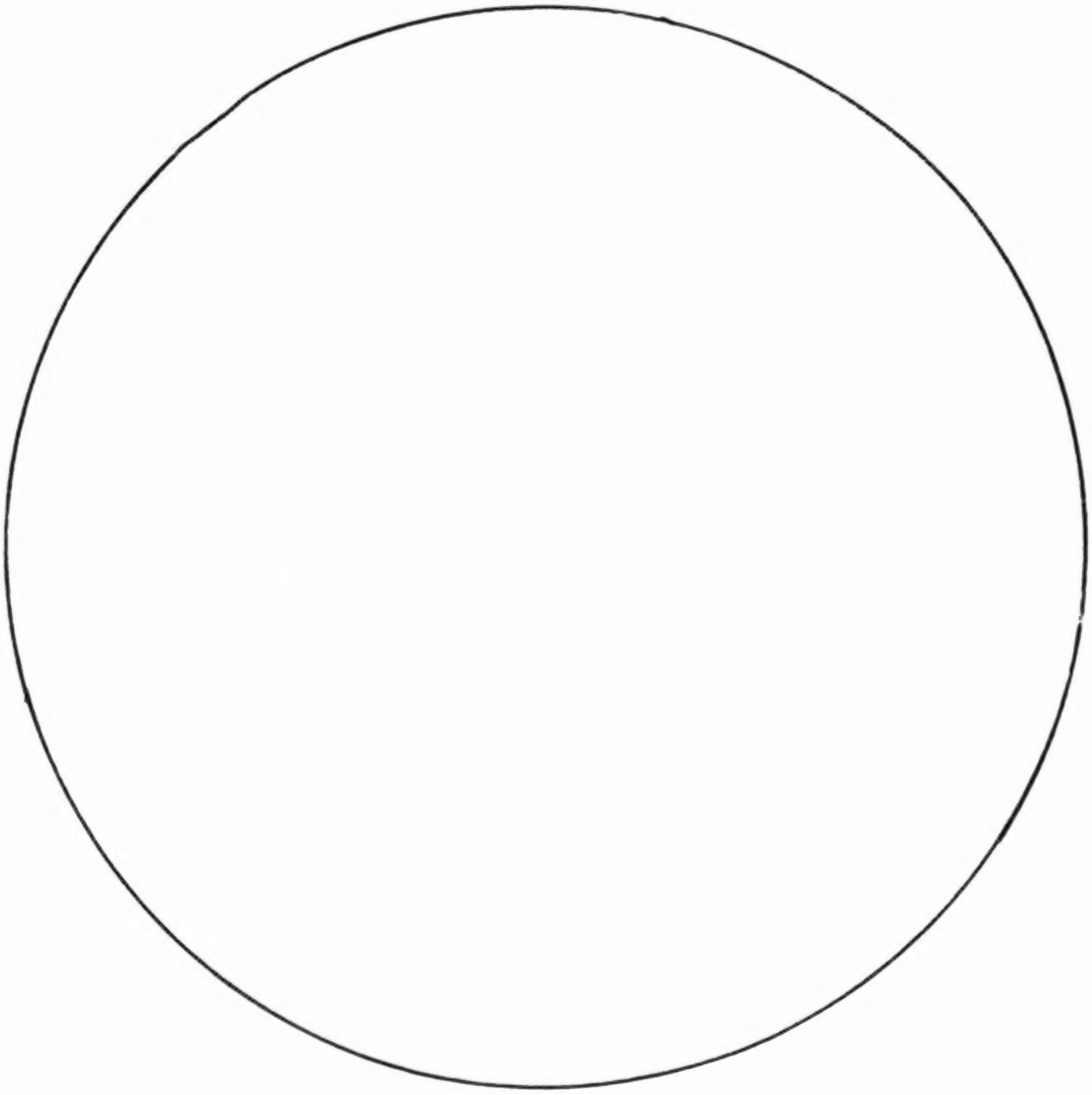


24. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

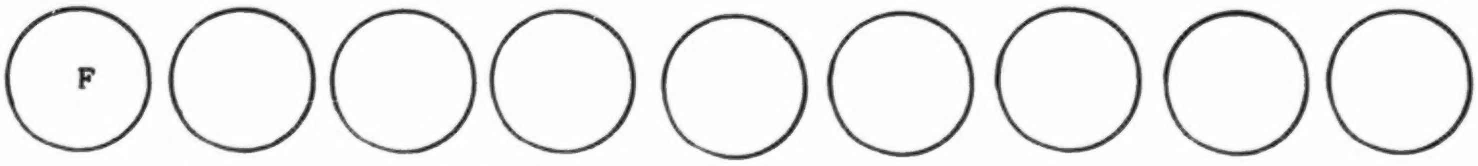




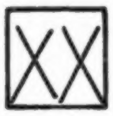
25. In the large circle below, draw two circles--one to stand for a friend and a second to stand for yourself. Place an F in the circle for your friend and an S in the circle for self.

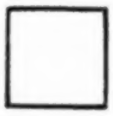


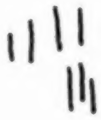
26. The F below stands for your Father. Choose one of the circles to stand for yourself, and place an S in it.



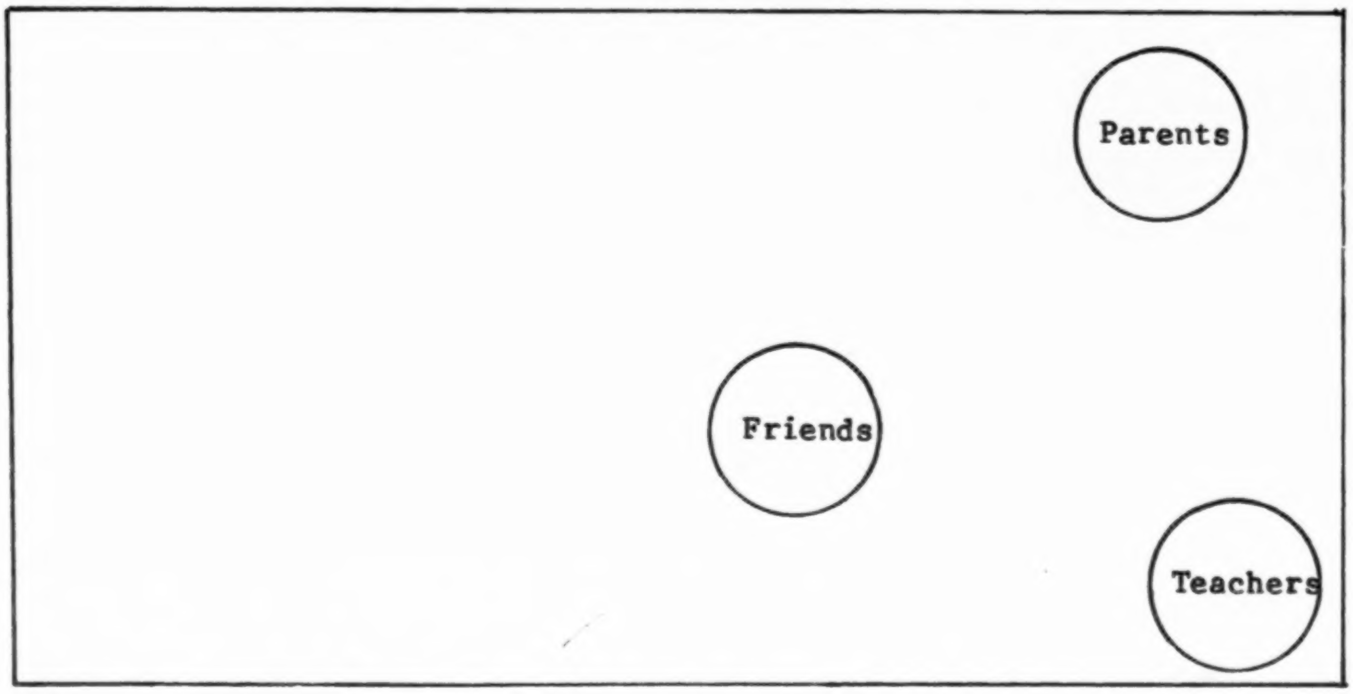
27. Choose one of the designs below to stand for yourself. Draw a circle around it.



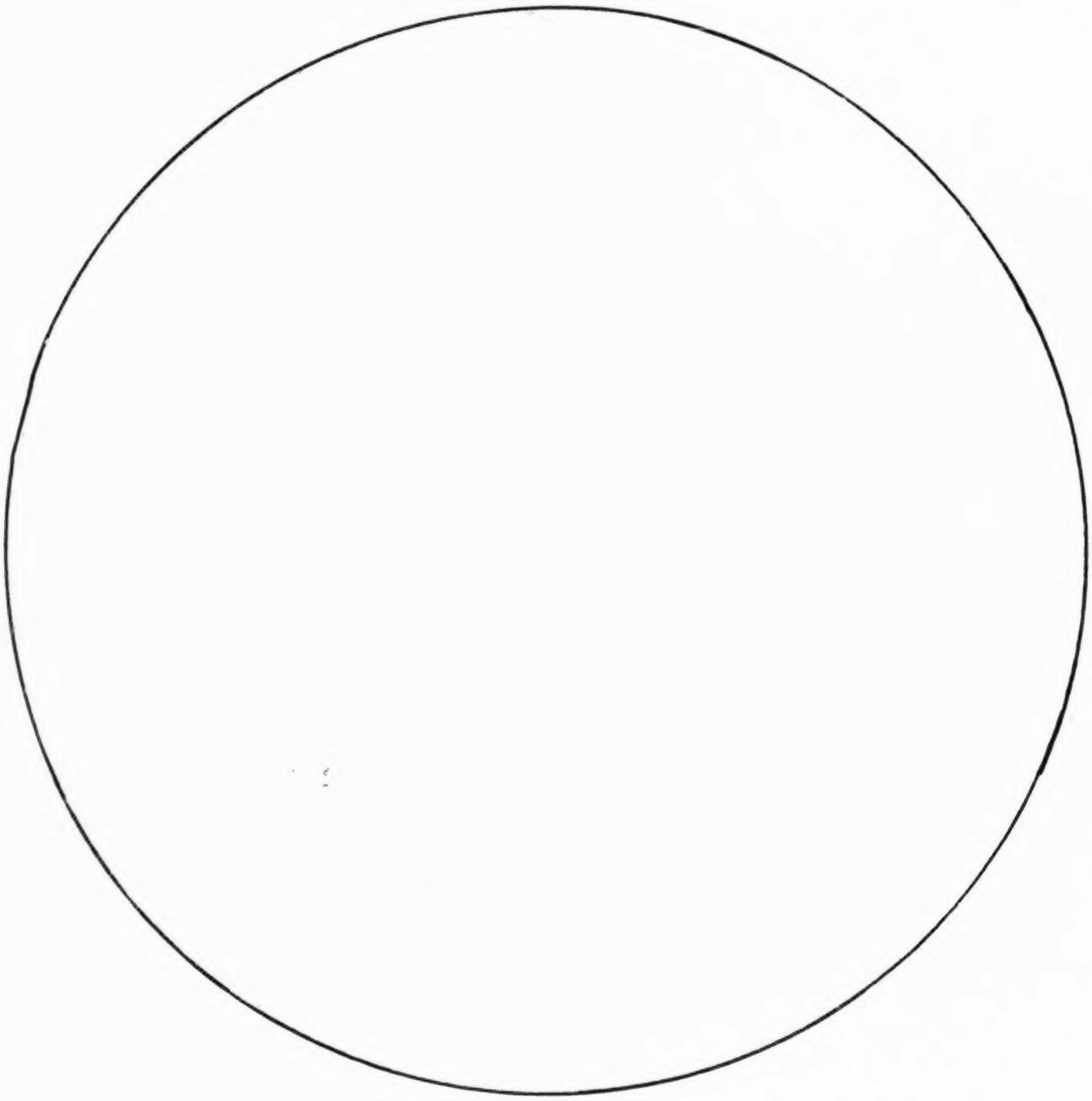




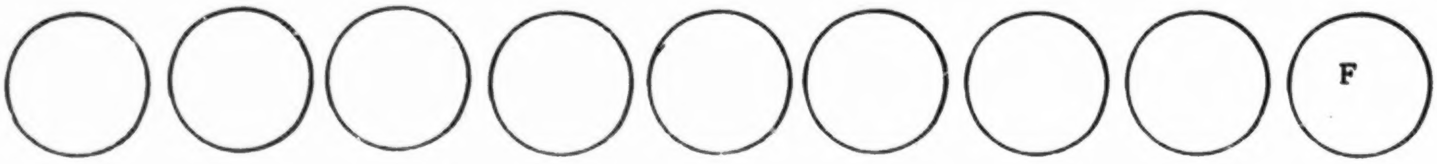
28. The circles below stand for your Parents, Teachers, and Friends. Draw a circle to stand for yourself anywhere in the space below


Parents
Friends
Teachers

29. In the large circle below, draw two circles--one to stand for yourself and a second to stand for a friend. Place an S in the circle for self and an F in the circle for your friend.

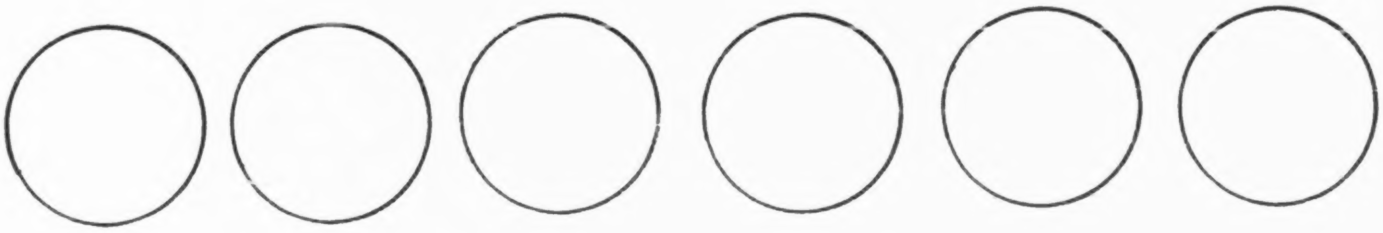


30. The F below stands for your Father. Choose one of the circles to stand for yourself, and place an S in it.

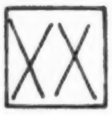


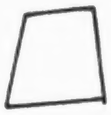
31. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

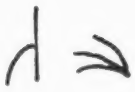
A - an actor
B - your brother or someone who is most like a brother
F - your best friend
P - the principal of your school
S - yourself
Sa- a salesman



32. Choose one of the designs below to stand for yourself. Draw a circle around it.

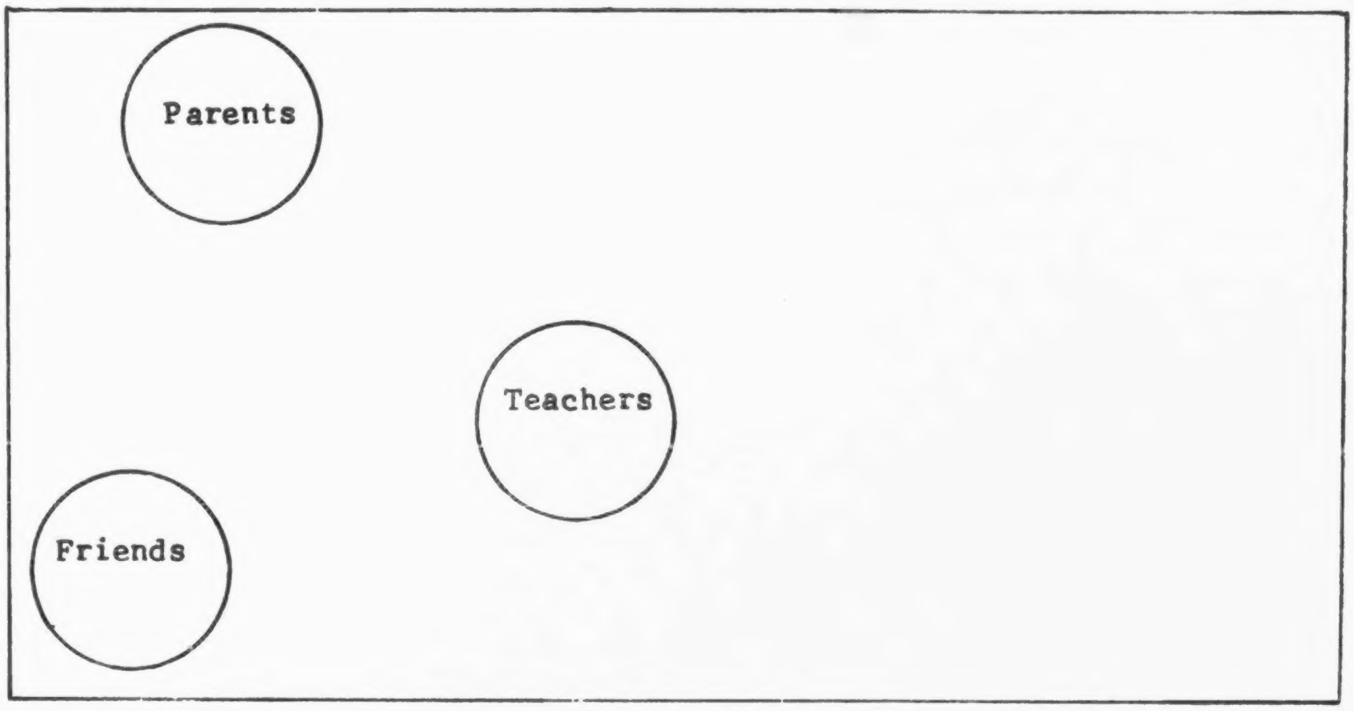






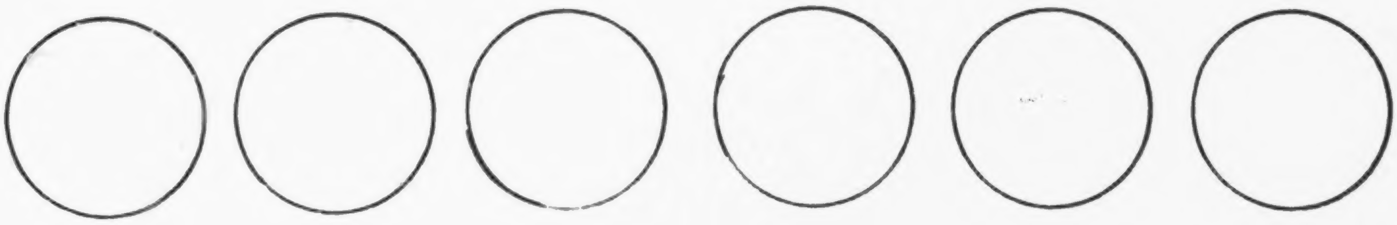
33. The circles below stand for your Parents, Teachers, and Friends.

Draw a circle to stand for yourself anywhere in the space below.

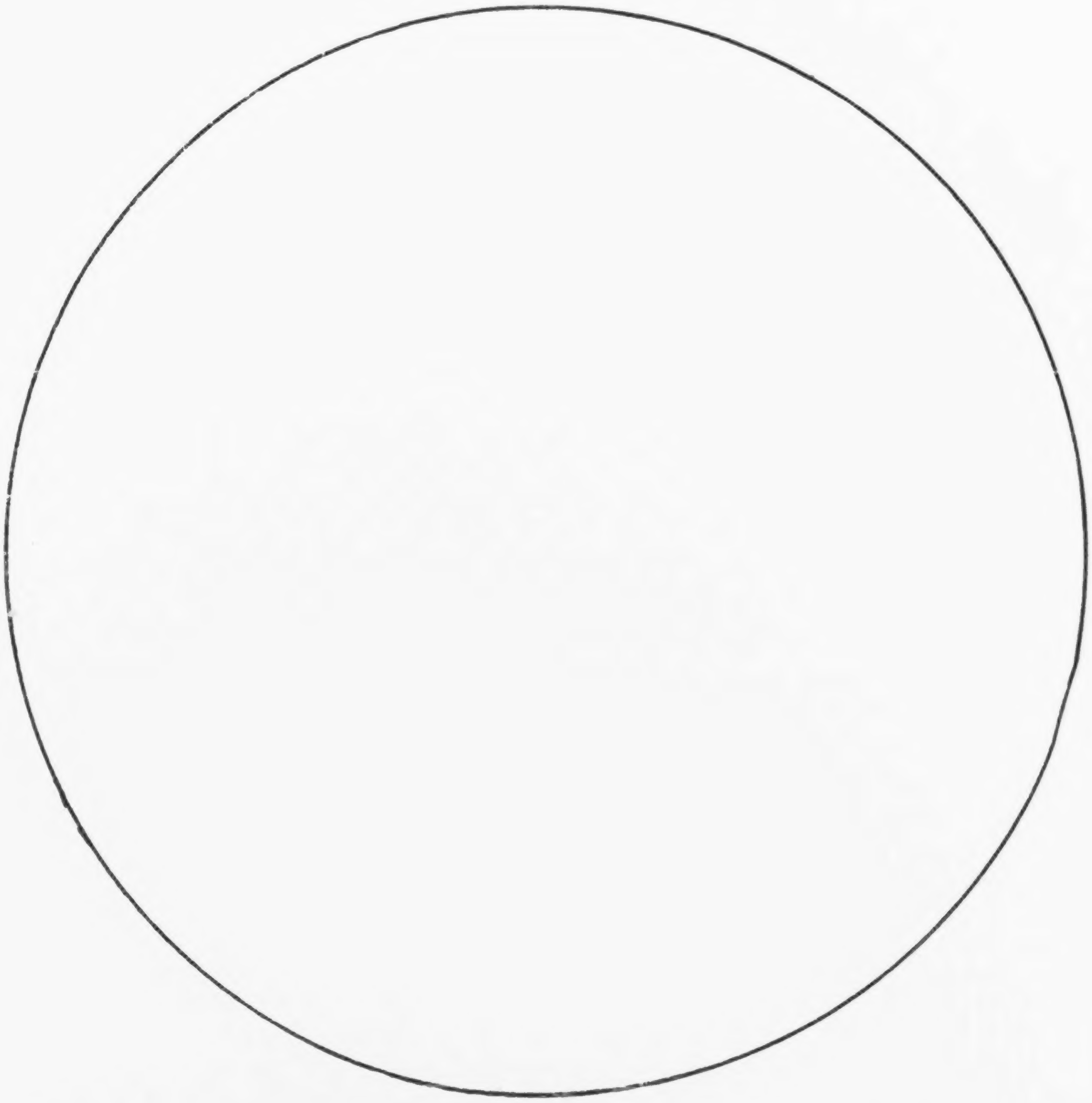


34. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

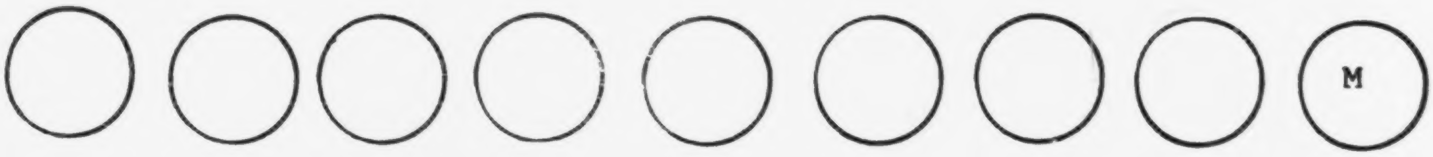
C - someone you know who is cruel
G - your grandmother
H - a housewife
P - a policeman
S - yourself
Si- your sister or someone who is most like a sister



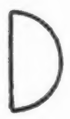
35. In the large circle below, draw two circles--one to stand for a friend and a second to stand for yourself. Place an F in the circle for your friend and an S in the circle for self.

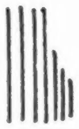


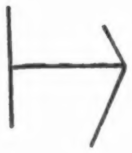
36. The M below stands for your Mother. Choose one of the circles to stand for yourself, and place an S in it.



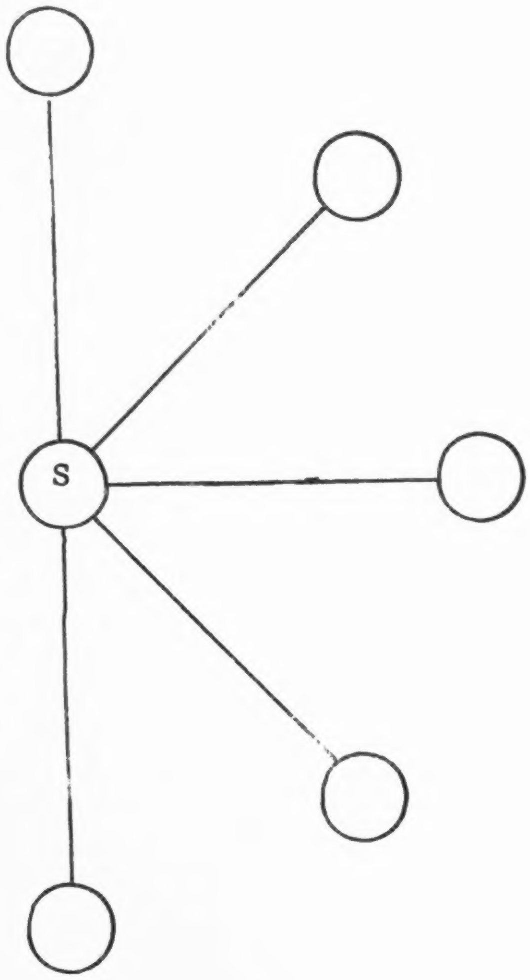
37. Choose one of the designs below to stand for yourself. Draw a circle around it.







38. The circle below marked S stands for yourself. Choose one of the circles to stand for your Teacher, and put a T in it.

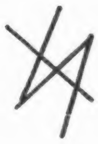


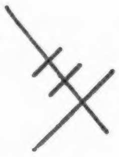
39. A B F N S Sa Si T U

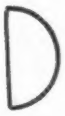
These letters stand for the following people: A someone you know who is a good athlete, B your brother, or someone most like a brother, F a friend, N a nieghbor, S yourself, Sa a salesman, Si your sister or someone most like a sister, T your teacher, U someone you know who is unhappy.

Your task is to arrange these people into as many or as few groups as you wish. In the space below, draw a circle around the letter to stand for each person, putting whichever ones you wish together. It does not matter how you arrange the people, but use each person only once and be sure to use all of them. If you think a person does not belong with any of the others, he may be placed by himself. When you have finished grouping the circles, draw a large circle around each of the groups in order to keep them separated.

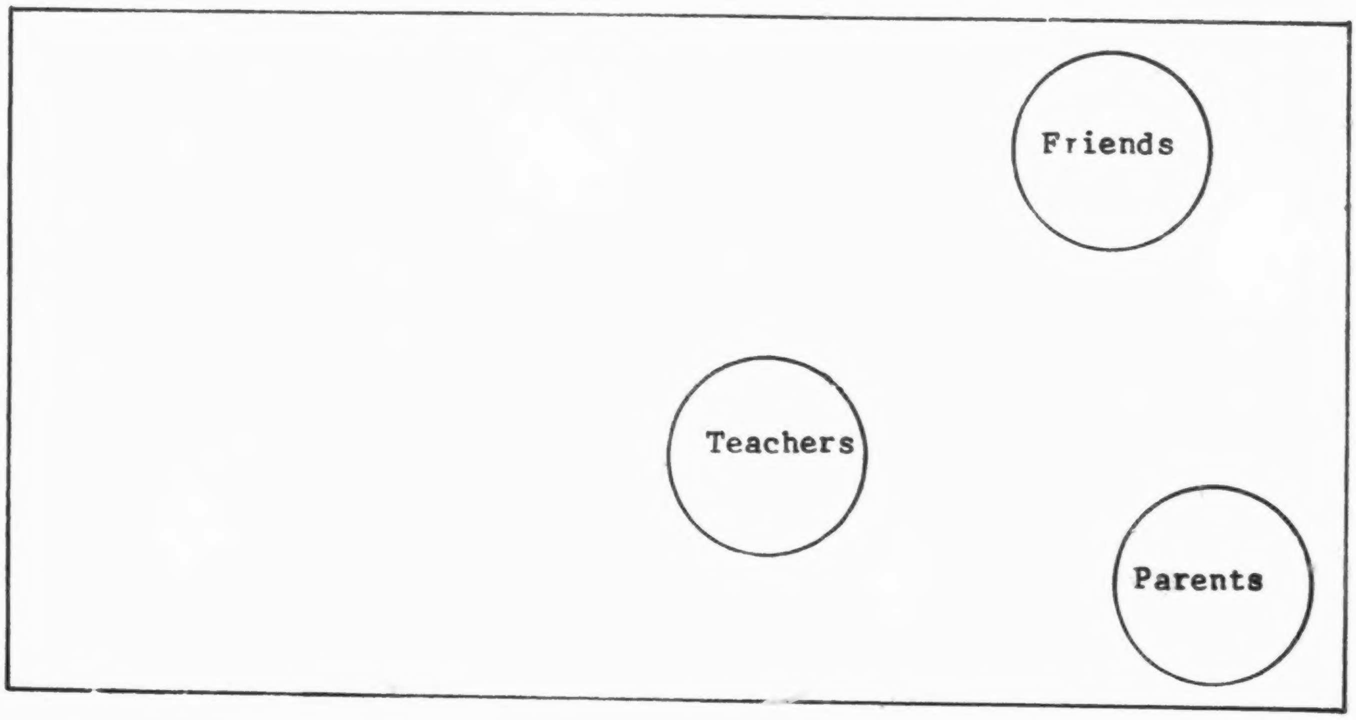
40. Choose one of the designs below to stand for yourself. Draw a circle around it.



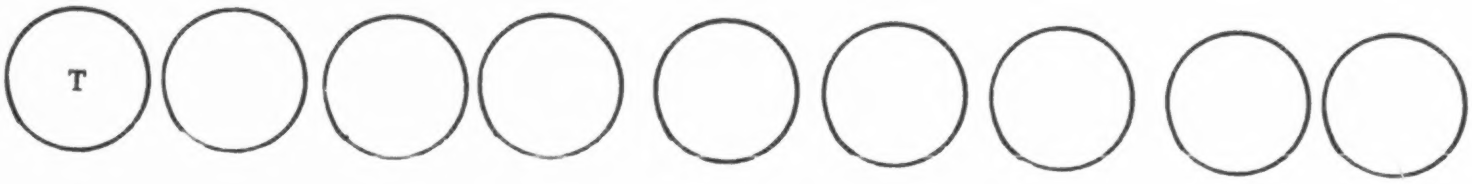




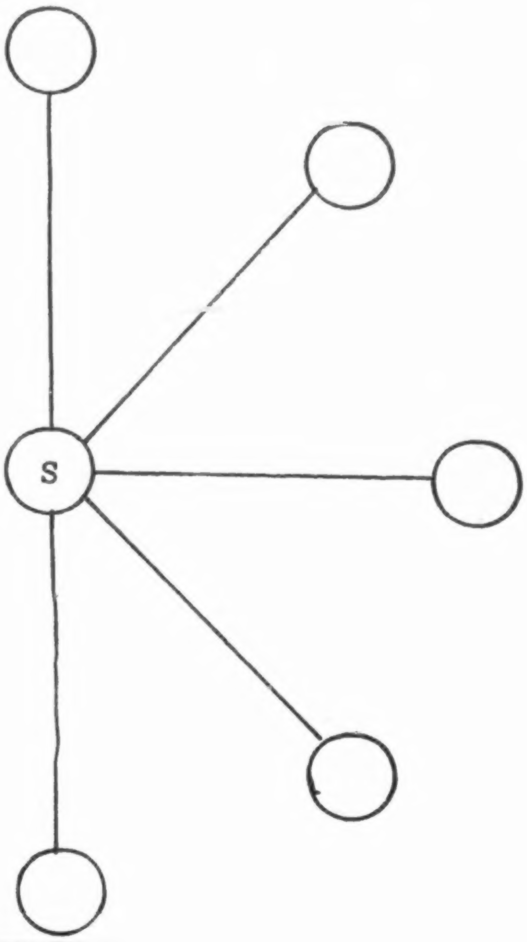
41. The circles below stand for your Parents, Teachers, and Friends. Draw a circle to stand for yourself anywhere in the space below.


Friends
Teachers
Parents

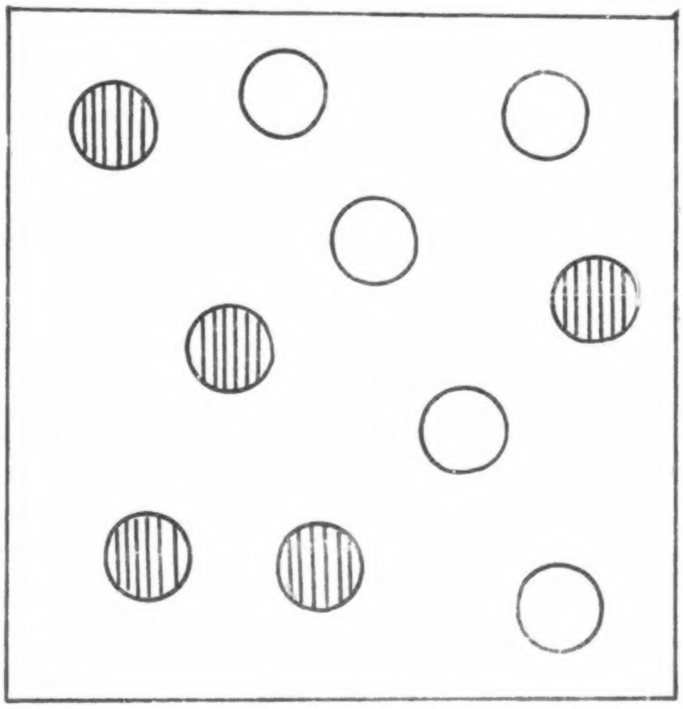
42. The T below stands for your Teacher. Choose one of the circles to stand for yourself, and place an S in it.

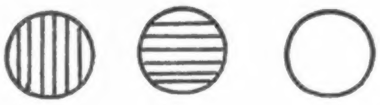


43. The circle below marked S stands for yourself. Choose one of the circles to stand for your Father, and put an F in it.



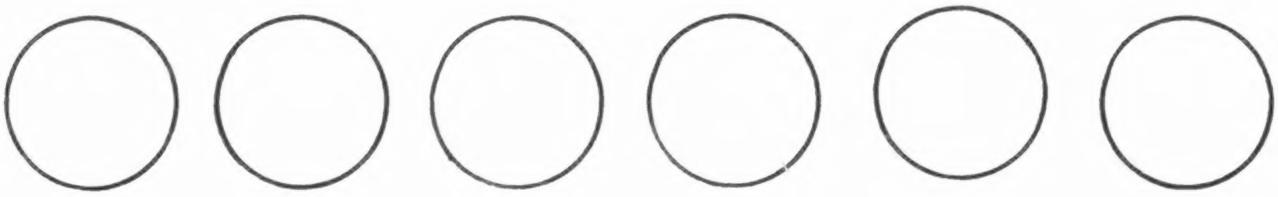
44. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.





45. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

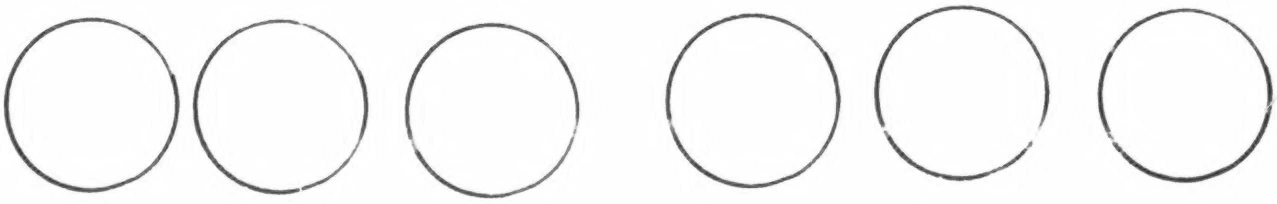
F - someone who is flunking
H - the happiest person you know
K - someone you know who is kind
S - yourself
Su- someone you know who is successful
St- the strongest person you know



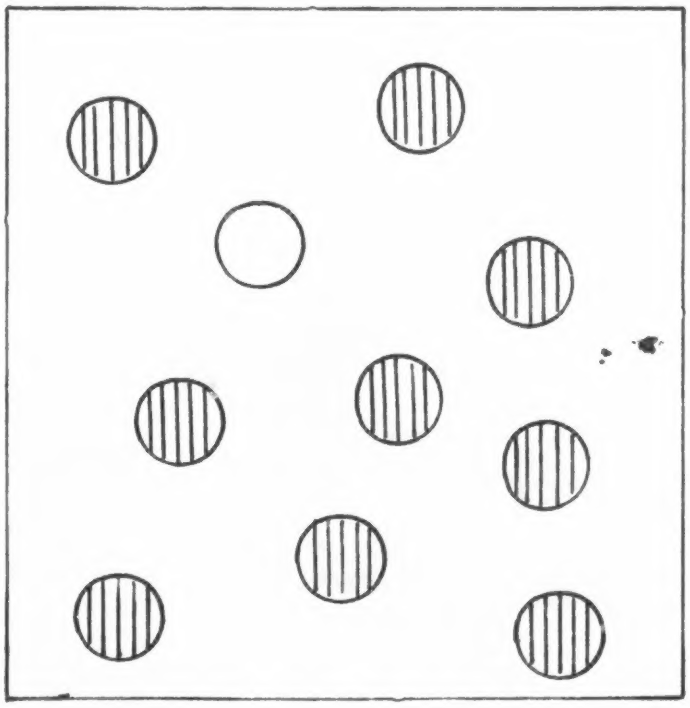
46. The circles below stand for people. Mark each circle with the letter standing for one of the people in the list. Do this in any way you like, but use each person only once and do not omit anyone.

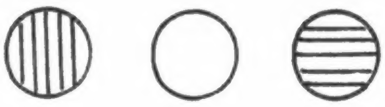
D - Doctor
F - Father
Fr- a friend

N - a nurse
S - yourself
U - someone you know who is unsuccessful

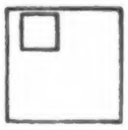


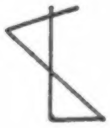
47. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

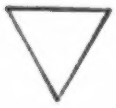




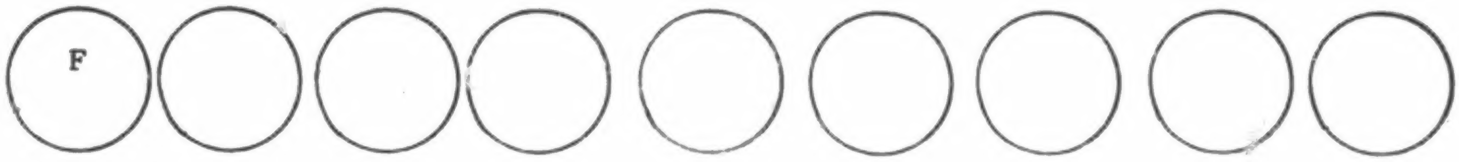
48. Choose one of the designs below to stand for yourself. Draw a circle around it.



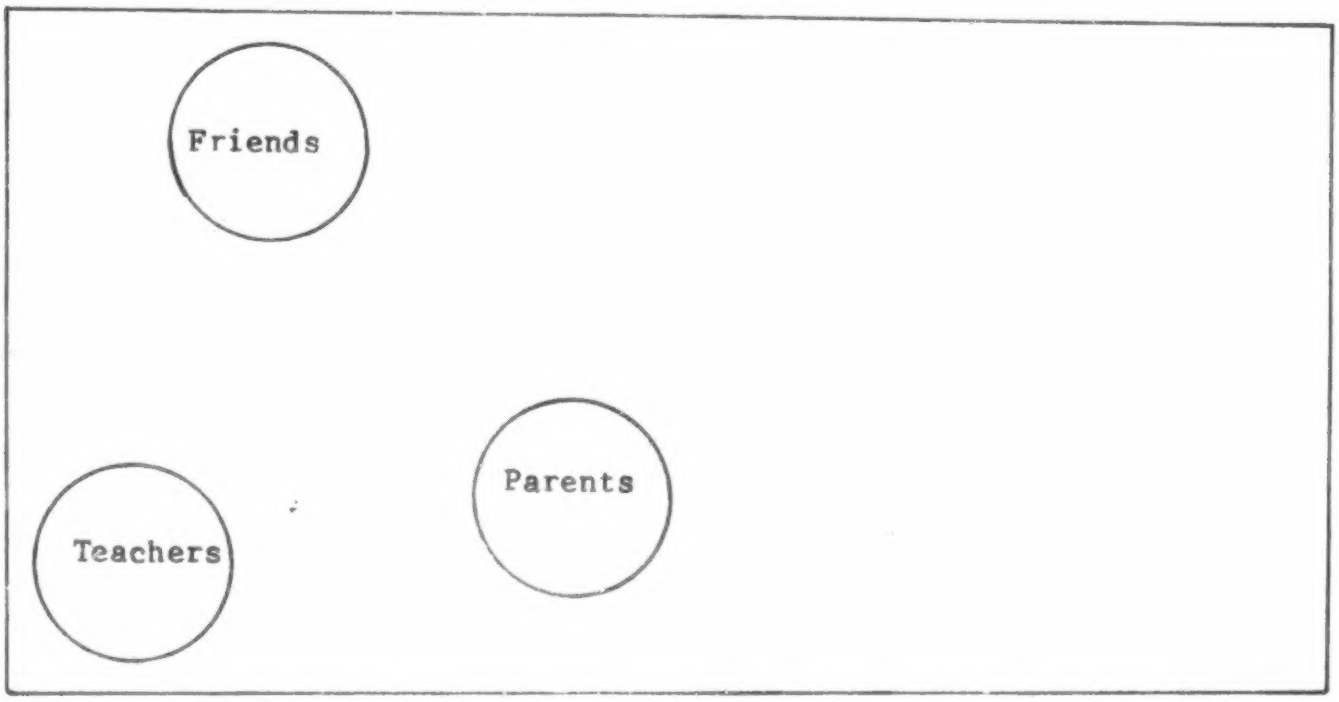




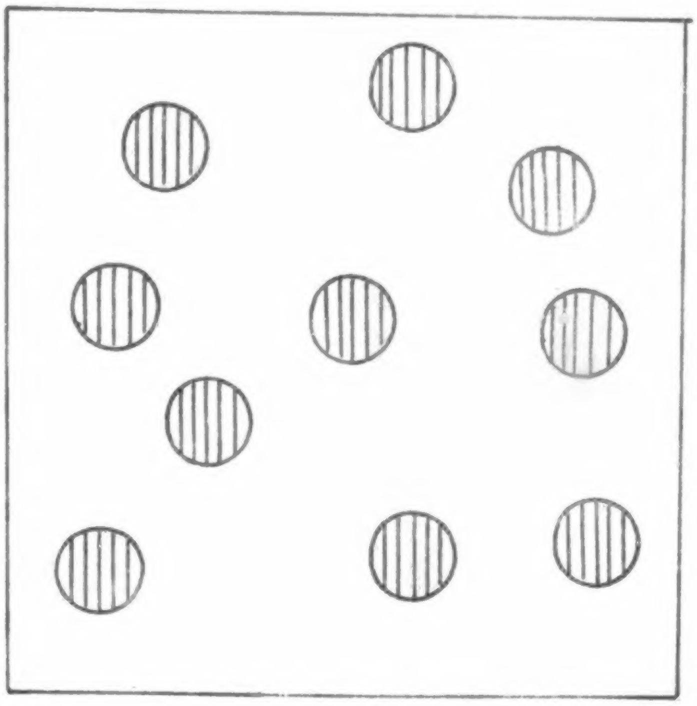
49. The F below stands for your Friend. Choose one of the circles to stand for yourself, and place an S in it.

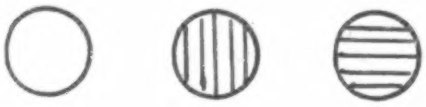


50. The circles below stand for your Parents, Teachers, and Friends. Draw a circle to stand for yourself anywhere in the space below.

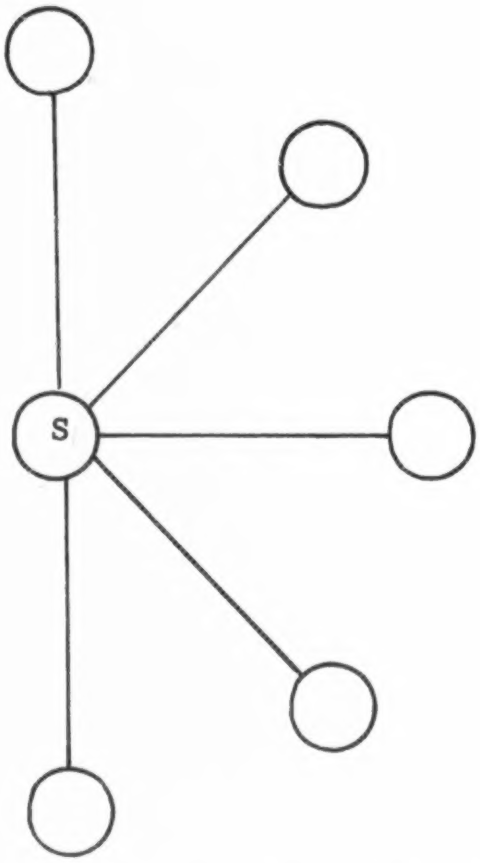


51. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.

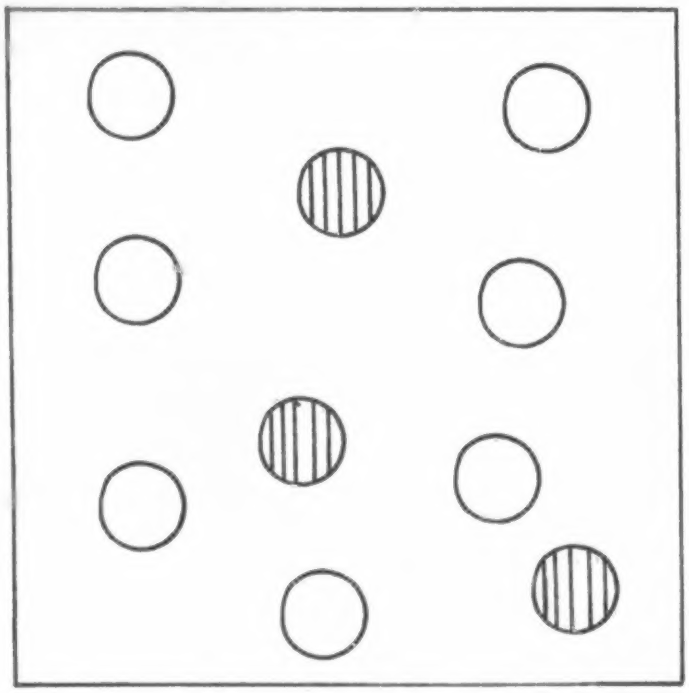


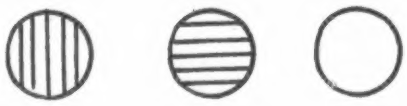


52. The circle below marked S stands for yourself. Choose one of the circle to stand for a Friend, and put a Fr in it.



53. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.



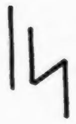


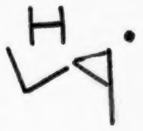
54. (D) (F) (Fr) (G) (K) (N) (S) (T) (U)

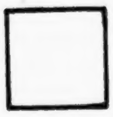
These letters stand for the following people: (D) someone you know who is a good dancer, (F) your father, (Fr) a friend, (G) someone you know who gets good grades, (K) someone you know who is kind, (N) a neighbor, (S) yourself, (T) teacher, (U) someone with whom you feel uncomfortable.

Your task is to arrange these people into as many or as few groups as you wish. In the space below, draw a circle around the letter to stand for each person, putting whichever ones you wish together. It does not matter how you arrange the people, but use each person only once and be sure to use all of them. If you think a person does not belong with any of the others, he may be placed by himself. When you have finished grouping the circles, draw a circle around each of the groups in order to keep them separated.

55. Choose one of the designs below to stand for yourself. Draw a circle around it.







56. All of the circles within the square stand for other people. Choose any one of the three circles on the right to stand for yourself, and draw one like it anywhere in the square.